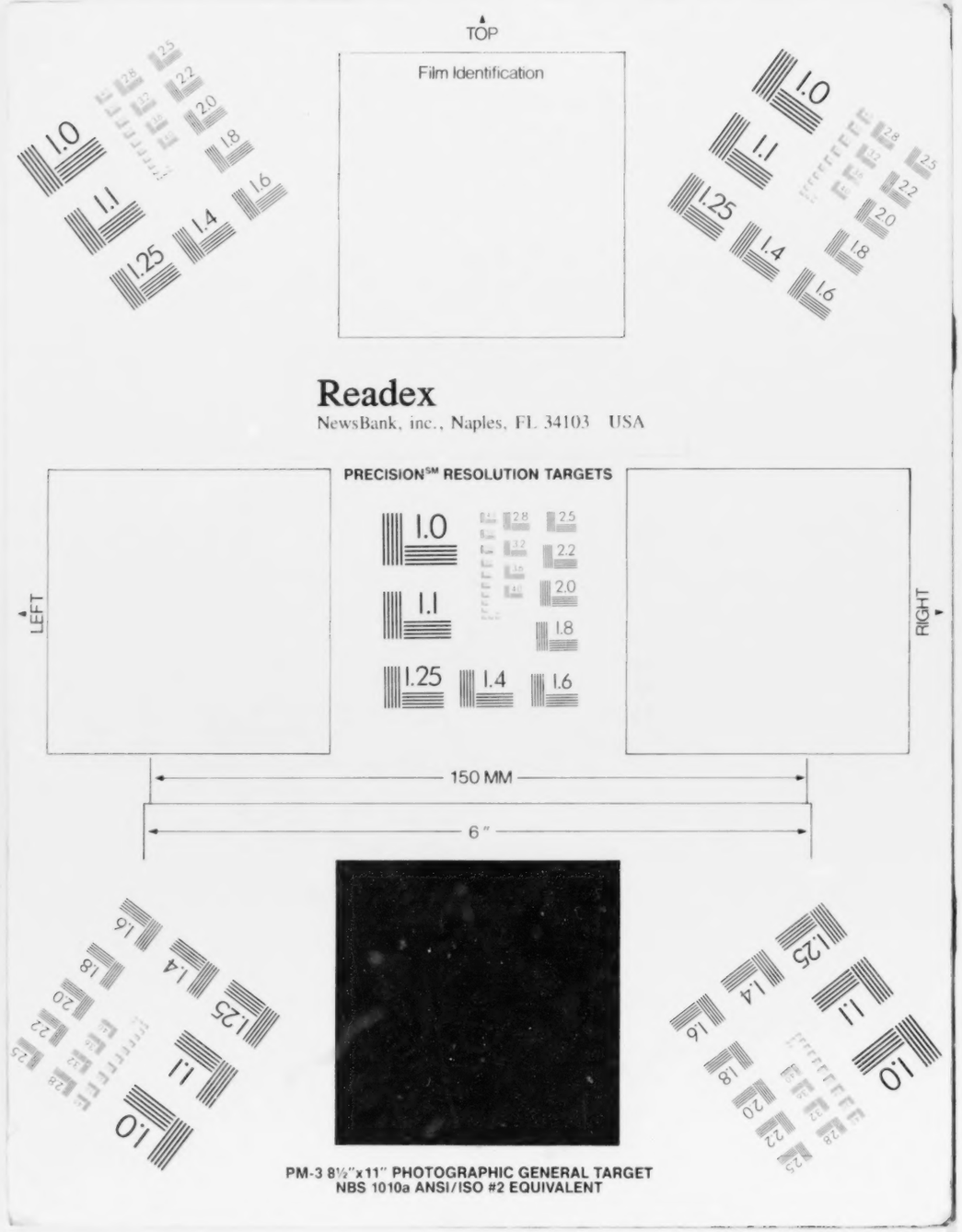

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Changing consumption patterns

- The role of consumers
- Supply-chain management
- Government purchasing
- Advertising
- Youth and consumption
- Developing country perspectives

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Using the power of consumption to achieve sustainability

Once we recognize that production and consumption are two sides of the same coin (see Chapter 4 of Agenda 21, adopted at the Earth Summit in 1992), the need for policies and strategies that encourage changes in current production *and* consumption patterns is obvious.

Up to now, worldwide efforts have largely concentrated on the *production* side: for example, minimization of raw materials use, prevention of pollution at source, and reducing risks to health and the environment. The Cleaner Production concept that UNEP has promoted is aimed at promoting a "life cycle economy". This includes consideration of products, which should be less polluting during use and easily recyclable at the end of product life. Industry needs to offer both products and services that meet consumers' needs while requiring a smaller input of natural resources, creating less pollution, and contributing to human development worldwide.

The time has now come to give greater attention to the other side of the coin – *consumption*.

Like production, consumption needs to be addressed in both industrialized and developing countries. Of course priorities related to consumption differ in different parts of the world, which calls for a wide range of approaches.

Equitable sharing of resources, among and within countries, is at the heart of sustainable consumption efforts. Industrialized countries, with around 15% of the world population, account for over 70% of total consumption expenditure. Around one-fifth of the world population, living in the highest income countries, consumes something like 60% of total world energy and two-thirds of total electricity; it owns about 90% of all cars and three-quarters of all telephones. It is estimated that a child born in an industrialized country contributes more to consumption and production during his or her lifetime than 30 to 50 children born at the same time in a developing country.

In the OECD countries the issue of "sufficiency" needs to be addressed: how to move from consumption patterns based on quantitative values ("more is always better") to enlightened consumption based on qualitative values ("quality over quantity").

In the developing world, the first priority is poverty alleviation. More than a billion people live on less than a dollar a day. Basic resources like water and energy are often used very inefficiently by those who are most impoverished, simply because they do not have the means to act differently. This problem needs to be addressed by governments through international cooperation. It is also important for the wealthier part of the population in rapidly industrializing countries to be made aware of the environmental implications of its consumption choices.

As in other areas relating to sustainable development, changes in consumption patterns will depend on the actions of all stakeholders. Not only do governments need to establish regulatory frameworks and economic incentives that orient consumption towards sustainable products and services. They also need to increase awareness by keeping the public informed about the consequences of their choices and supporting the activities of consumer organizations. Governments at all levels should also strengthen sustainable consumption initiatives through their purchasing policies.

Environmental considerations should be reflected in industry's purchasing policies, too. Through supply chain management, it has the leverage to increase sustainable consumption. Industry also has the responsibility to give consumers information on the environmental performance of its products and services. Eco-design and eco-labelling, for example, are based on reliable data concerning environmental impacts provided by tools such as Life Cycle Assessment (LCA).

The advertising industry has a key role to play in influencing behavioural changes by the final consumer as well as by manufacturers.

The power of consumption - as a driving force towards sustainable development - is in many ways greater than the power of legislative and regulatory measures. The articles in this issue of *Industry and Environment* present innovative approaches that respond to the growing recognition of the need for sustainable consumption. They suggest new ways to consume locally, while thinking globally.

The overall message is clear! Sustainable consumption is not necessarily about consuming less, it is about consuming differently, consuming efficiently, and helping to bring about an improved quality of life for everybody, in all parts of the world.

◆

Consumption: facts and figures

Consumption of virtually every type of goods and services has increased enormously in the 20th century – in terms of absolute quantities and per person. The effects on human welfare have often been dramatically positive.

However, these increases in consumption have been unevenly distributed. And while some level of consumption is obviously necessary for our survival and development, all consumption-related activities have environmental impacts. The growth of globalization means that such activities in one part of the world can affect the economy and environment of countries in a completely different part.

The concept of sustainable consumption received attention at the UN Conference on Environment and Development (the "Earth Summit") at Rio de Janeiro in 1992. Agenda 21, the action plan for implementing sustainable development adopted by UNCED participants, identifies the consumption and production patterns that are typical of industrialized countries as unsustainable – and as the major causes of global environmental deterioration. Agenda 21 calls on all countries to promote sustainable consumption patterns, with the industrialized countries taking the lead. Meeting in New York in 1997, the "Earth Summit +5" adopted a programme to improve implementation of Agenda 21.

Regional and rural/urban differences in consumption

The availability of basic domestic needs and comforts has increased almost everywhere in the past several decades, with the notable exception of Sub-Saharan Africa. From a sustainability standpoint, however, consumption is poorly distributed. While it has risen spectacularly per capita in some parts of the world (over 6% annually in East Asia since 1975), consumption by the average African household is about 20% *lower* than it was in 1975. Even where consumption in developing countries has steadily increased, it is not catching up with that in the industrialized countries (**Figure 1**). The UN Development Programme (UNDP) estimates that a child born in an industrialized country contributes more to consumption and production over its lifetime than do 30 to 50 children born in developing countries.

The trend towards increasing urbanization in developing countries has made the need for sustainable consumption more urgent. Almost all the growth in the world's population in the next 50 years will occur in these countries, and 90% of this growth is expected to be in urban areas. Cities, which contribute over half of GDP, are essential to developing countries' economic growth, but they also consume resources and generate waste at rates much higher than the national average in these countries.

The wealthy, relatively high-consumption countries impact environments and economies well beyond their borders – through their demand for both non-renewable and renewable resources. These countries, with about one-fifth of the world's population, are responsible for 86% of world expenditure on consumption. They consume 46% of all meat, 65% of all electricity, 84% of all paper and 85% of all metals and chemicals. They also generate some 70% of CO_2 emissions.

Statistics on consumption

Increases in consumption of selected products during the last 30 years, by region, are shown in **Table 1**.

Food

Average daily calorie intake was 2227 in 1970 and 2702 in 1995. However, in developing countries this average was 2131 and 2572, respectively; in the industrialized countries the average increased from 3016 to 3157 (**Figure 2**). The UN Food and Agriculture Organization (FAO) considers an average 2300 calories per day to be the minimum necessary for human health. The least developed countries still fall below this level. Daily calorie intake in these countries barely rose – from 2090 in 1970 to 2103 in 1995.

There has been a marked shift in the types of food being consumed, with people in both industrialized and developing countries eating more meat and fish. Average annual meat consumption per capita rose from 14 to 21 kg between 1983 and 1993 in developing countries, and from 74 to 76 kg in the industrialized world.

Transport, vehicles, private cars

One of the starkest differences in consumption between wealthy and poor countries concerns motor vehicle ownership. The richest 20% of the world's population owns 87% of the world's motor vehicles, while the poorest 20% owns less than 1% of them. Between 1975 and 1993, the number of cars per 1000 people increased from eight to 16 in the developing countries, and from 289 to 405 in the industrialized countries. During the same period, average annual gasoline consumption increased from 21 to 43 kg per capita in the developing countries, while falling from 554 to 500 kg per capita in the industrialized countries.

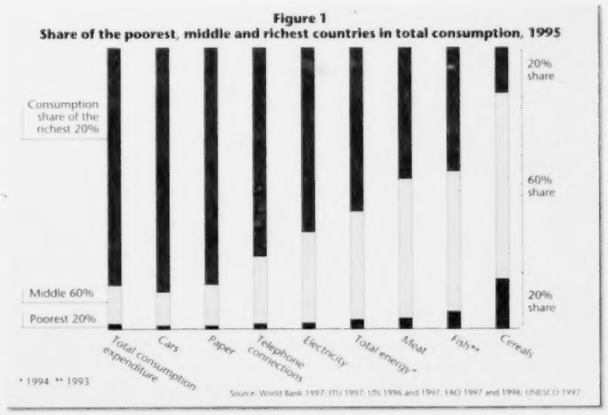
Air emissions from road transport vary widely between developing and industrialized countries, reflecting not only the difference in the number of vehicles but also the higher proportion of older, more polluting cars and trucks in developing countries. CO_2 emissions per capita in 1996 were 0.5 tonnes in Turkey, 1.0 tonnes in Mexico, 1.4 tonnes in the Republic of Korea, 1.7 tonnes in Spain and 4.9 tonnes in the United States. Emissions per kilometre travelled lined up quite differently, however: for each million kilometres traveled, vehicles emitted 363 tonnes of CO_2 in the US, 450 tonnes in Spain, 802 tonnes in Turkey, 1159 tonnes in the Republic of Korea and 1752 tonnes in Mexico.

Table 1
Long-term trends in private consumption of selected items, by region

Item	Year	World	Industrialized countries	Developing countries	Sub-Saharan Africa	Arab States	East Asia	Southeast Asia and the Pacific	South Asia	Latin America and the Caribbean
Meat (millions of tonnes)	1970	87	57	29	3	2	8	3	3	10
	1995	199	95	103	6	5	53	8	8	23
Cereals (millions of tonnes)	1970	473	91	382	27	20	142	41	112	33
	1995	866	160	706	56	49	236	82	212	57
Total energy (millions of tonnes of oil equivalent)	1975	5575	4338	1237	139	67	407	102	180	306
	1994	8504	5611	2893	241	287	1019	296	457	531
Electricity (billions of kilowatt-hours)	1980	6286	5026	1260	147	98	390	73	161	364
	1995	12,875	9300	3575	255	327	1284	278	576	772
Gasoline (millions of tonnes)	1980	551	455	96	10	12	11	8	6	48
	1995	771	582	188	15	27	38	19	13	72
Cars (millions)	1975	249	228	21	3	2	0.5	2	2	12
	1993	456	390	65	5	10	7	7	6	27
Bicycles produced (millions)	1970	36	-	-	-	-	-	-	-	-
	1995	109	-	-	-	-	-	-	-	-
Cigarettes (per capita)	1971		2860	860	Africa[a]	Europe[a]	East Asia[a]	SE Asia/ Pacific[a]	Eastern Mediterranean[a]	Americas[a]
	1981		2980	1220						
	1991	1325	2590	1410	480	2080	1945	415	890	1530

[a] 1995
Source: FAO 1998; UN 1996 and 1997; WHO 1998

Figure 1
Share of the poorest, middle and richest countries in total consumption, 1995



Energy

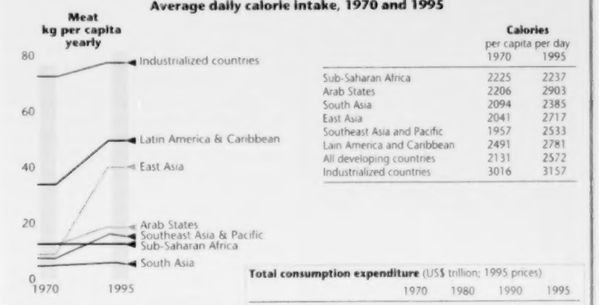
Total world energy use has doubled since the 1960s. Fossil fuel consumption, which increased from less than 2 billion tonnes of oil equivalent in 1950 to 8 billion tonnes in 1996, is growing faster than the population. Electricity consumption, overall and per capita, has increased in both developing and industrialized countries (**Table 2**). Not surprisingly, annual energy consumption per capita is highest in the colder Nordic countries, which averaged 15,766 kilowatt-hours per capita in 1995, and Canada, which averaged 17,047 kilowatt-hours per capita. There are large differences in developing country consumption, which ranges from 14 kilowatt-hours per capita in Chad and 19 in Cambodia to over 8000 in some of the Gulf States. A high proportion of household energy in developing countries comes from fuelwood, contributing to environmental stress on forests in many areas.

Metals

World consumption of metals has also been growing, as shown in **Figure 3**. Steel consumption increased dramatically in recent years, from 602 million metric tonnes in 1992 to 693 metric tonnes in 1997. The environmental consequences have become more serious, too. Metal production is one of the most energy-intensive industrial sectors, responsible for about 7-10% of total energy consumption. Producing the required energy contributes to greenhouse gas emissions and to the long-term potential for climate change.

Metal mining and production also creates huge quantities of waste, some of it toxic (see, for example, *Industry and Environment* Vol. 20, No. 4). Depending on the type of metal, a large proportion of the mined material is waste: 60% of iron ore, 99% of copper ore and almost 100% of gold ore is waste material. In addition to the management problems presented by their vast amounts, these wastes often contain residues of toxic metals and the chemicals used for extraction. Recent releases of cyanide or acid-laden waters from tailings dams have drawn attention to the problems associated with mining waste.

Figure 2
Average daily calorie intake, 1970 and 1995



Calories per capita per day	1970	1995
Sub-Saharan Africa	2225	2237
Arab States	2206	2903
South Asia	2094	2385
East Asia	2041	2717
Southeast Asia and Pacific	1957	2533
Lain America and Caribbean	2491	2781
All developing countries	2131	2572
Industrialized countries	3016	3157

Total consumption expenditure (US$ trillion; 1995 prices)

	1970	1980	1990	1995
Industrialized countries	8.3	11.4	15.2	16.5
Developing countries	1.9	3.6	4.3	5.2

Note: Eastern Europe and CIS not included among industrialized countries

Source: FAO 1997 and 1998; UN 1996 and 1997; UNESCO 1997; World Bank 1997

Telecommunications

The number of telephone lines per 1000 people has grown five-fold in the developing world since 1975, but it is still a fraction of the number in service in industrialized countries (**Table 3**). While the wealthiest countries, like Sweden and the US, have over 600 lines per 1000 people, the average in developing countries is around 39 per 1000 people. In the poorest countries, like Chad and the Democratic Republic of the Congo, there is something like one line per 1000 people.

It has been suggested recently that telecommunications services are one area in which developing countries might be able to "leapfrog" across the development path of industrialized countries. Using cellular phones and satellite-based communications, telephone service could increase in these countries without the need for wires, poles and relay stations. In 1995, there were still only 3.6 cellular phone subscribers per 1000 people in developing countries compared to 61.1 in industrialized countries. Mobile phone use has grown very rapidly, from about 11 million users worldwide in 1990 to over 300 million in 1998. By 1998, the number of mobile phones per 1000 inhabitants was 131 in Europe, 120 in the Americas, 30 in Asia, almost five in Africa, and 51 in the world as a whole.

Health services

Public expenditure on health (an indicator of consumption of health services) grew from 1% of GDP in developing countries in 1960 to 2% in 1990. In 1991, public health spending was 9.4% of GDP in industrialized countries. In the United States and Switzerland, public and private spending on health care was over US$ 2500 per person in 1990; in Mozambique, Laos, Sierra Leone, Tanzania and Viet Nam the corresponding figure was less than US$ 5. Some 20% of the population in developing countries, and half the population in the least developed countries, do not have access to health services.

At the high end of spending on health services

Table 2
World energy use trends

	Electricity consumption				Traditional fuel consumption[a]		Commercial energy use (oil equiv./ent)						Net commercial energy imports	
	Total (millions of kilowatt-hours)	Index (1980=100)	Per capita kilowatt-hours)		(as % of total consumption)		Total (1000 metric tonnes)		Per capita (kg)		GDP output per kg (US$[b])		(as % of energy consumption)	
	1995	1995	1980	1995	1980	1995	1980	1994	1980	1994	1980	1994	1980	1994
All developing countries	3,574,530	284	387	814	22	15	1,280,811	2,449,513	393	568	1.7	1.5	-94	-47
Least developed countries	43,741	154	76	81	77	84	19,166	27,540	53	53	5.1	5.1	19	-97
Industrialized countries	9,300,133	147	6601	7542	1	3	4,919,887	5,467,912	4587	4452	2.3	2.8	24	19
World	12,874,663	174	1566	2290	7	7	6,200,698	7,917,425	1431	1429	2.2	2.4	-	-

a. Data are omitted for countries deriving less than 20% of household energy from fuelwood
b. Estimated real GDP (at 1987 prices) divided by kilograms of oil equivalent of commercial energy use

Source: UN 1997

are the countries of North America and Europe, where high consumption is not always a guarantee of good public health. In these countries a large proportion of health services consumption goes to treat illnesses and injuries related to lifestyle, including smoking-related diseases and cardiovascular problems associated with high-fat diets and lack of exercise.

Education

In 1995, spending on education (an indicator of consumption of education services) averaged 3.8% of GDP in developing countries and 5.2% of GDP in industrialized countries. The highest spending countries (Luxembourg, Finland and the US) spent over US$ 11,000 per pupil in 1992, while the figure in the countries at the bottom of the list in terms of per pupil spending was US$ 40-60. UNESCO estimates that adult illiteracy rates are almost 30% in developing countries, 50% in the least developed countries, 1.4% in the industrialized countries and 22% globally. There are great disparities between access to education in the rural and urban areas of developing countries, with the wealthier urban areas heavily favoured.

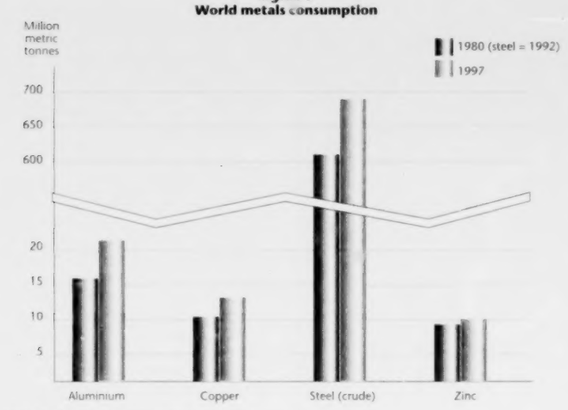
Paper

Paper goods include writing and printing paper (which make up less than half of total paper products) and packaging. Paper consumption per capita has increased substantially everywhere except Sub-Saharan Africa, where it has fallen in the past 30 years. The industrialized countries use 87% of the world's writing paper, almost 16 times as much per person as the developing country average; North America alone uses over one-third of the world's paper (**Table 3**). Per capita consumption of writing and printing paper in the developing world remains below the level required for basic communications and literacy.

Paper consumption is related to literacy rates, but even more strongly to income. While adult literacy in Sweden and Hungary is practically 100%, the Swedes use five times as much paper per capita as Hungarians. Global paper consumption is expected to grow around 50% by 2010. The greatest increase, driven by rising incomes and literacy rates, will occur in the Asian developing countries, which are likely to face shortfalls in the supply of pulp and paper and other wood products.

The pulp and paper industry can have serious environmental impacts through release of liquid run-off, which often contains organic, toxic and chlorinated organic matter. This can damage local water quality and destroy aquatic life. Some major paper producers in industrialized countries have made improvements to their processes (including introducing closed-cycle bleaching, in which no effluent is discharged), but serious problems are still common in developing countries.

Figure 3
World metals consumption



Source: World Bureau of Metal Statistics, International Iron and Steel Institute

Cigarettes

Average annual cigarette consumption per adult *fell* by 10% in industrialized countries between 1972 and 1992. However, it *rose* by 15% worldwide, and by 60% in developing countries, during the same period. Approximately 70% of all tobacco use takes place in developing countries. Per capita use is still much greater in the industrialized countries, however (Table 1). The World Health Organization has found that the tobacco industry provides no global economic benefits, since its profits do not equal health care costs, early mortality and lost productivity due to disease, and environmental damage caused by pesticide application.

Leisure goods and services

The amount spent on consumer goods not directly related to survival needs in the industrialized countries dwarfs the amount that would be needed to provide essential goods and services in the developing world (**Table 4**). Of course a reduction in purchases of pet food or cosmetics in Europe, for example, would not be directly translatable into safer water in Africa. But such comparisons demonstrate that it is not cost alone that prevents the world from addressing the poorest people's basic consumption needs, but also the political will.

Travel and tourism is now the world's largest industry, responsible for over 10% of global economic activity. It is one of the fastest-growing economic sectors, with international tourist arrivals increasing by 5% every year. The World Tourism Organization estimates that international arrivals world-wide were almost 600 million in 1996, and that this figure will grow by over 50% by 2010.

Environmental problems associated with consumption

The environmental impacts of consumption are caused mainly by activities related to producing, packaging, transporting and using the goods consumed. These impacts vary, depending on the

Table 3
Access to information and communications, 1995

	Radios (per 1000 people)	Televisions (per 1000 people)	Daily news papers (copies per 1000 people)	Printing and writing paper consumed (metric tonnes per 1000 people)	Main telephone lines (per 1000 people)	Public pay phones (per 1000 people)	International telephone calls (minutes per person)	Fax machines (per 1000 people)	Cellular mobile telephone subscribers (per 1000 people)	Internet users (per 1000 people)	Personal computers (per 1000 people)
All developing countries	185	145	50	5.2	39	0.7	2.8	-	4	0.5	7
Industrialized countries	1005	524	235	78.2	414	3.7	41.6	23	61	17.9	156
World	364[a]	228	115	20.9	122[b]	1.4	10.9	-	17[b]	4.8[b]	44[b]
North America	1990	763	213	148.0	622	5.8	63.5	-	124	38.3	315
Eastern Europe and CIS	412	317	121	6.7	158	1.1	6.5	1	2	2.6	18
Western and Southern Europe	779	505	232	78.2	487	3.6	61.2	-	53	16.7	135
OECD countries	1089	543	260	89.4	457	4[a]	44.6	33	70	19.8	169
European Union	880	522	243	81.6	486	3.7	58.4	-	58	17.1	138
Nordic countries	928	514	453	133.9	614	3.5	95.0	-	205	70.2	222

a. UNESCO 1998
b. ITU 1997

Source: Columns 1: UNESCO 1998; column 2: ITU 1997; columns 3 and 4: UNESCO 1997; columns 5-7 and 9-11: ITU 1997; column 8: calculated on the basis of estimates from ITU 1997

nature of the goods and the way they are transported and used. Each product consumed "carries with it" a load of impacts, large and small, resulting from the processes that went into getting it from the original source of raw materials and energy inputs to the consumer – and beyond the consumer to the disposal of any waste left over or emissions released to the environment during use. For example, the great majority of forms of transport are powered by internal combustion engines. With their fossil fuel requirements and emissions of CO_2, NO_x, SO_x, other gases and particulates, such engines consume huge quantities of resources and produce a large share of the world's air pollution.

Rising consumption of all sorts tends to increase such impacts, especially when consumption trends shift towards a greater proportion of high-impact products. The eating habits of industrialized countries, and increasingly those of developing countries, are shifting towards higher consumption of meat and dairy products, elaborately packaged products, intensively grown produce, and frozen foods. These products generally embody greater environmental impacts than traditional foodstuffs. Producing and packaging them may contribute to problems such as water pollution, climate change and waste generation. In addition, transporting food products over long distances can have significant environmental impacts.

Consumption impacts on resources

The environmental impacts of consumption include depletion of the stock of non-renewable resources such as metals and fossil fuels, as well as mismanagement of renewable resources including forests, water, agricultural land and fisheries. Generation and disposal of waste related to consumption also affects land and water resources. The Earth's renewable resources are subject to a number of types of major impacts, as documented in UNEP's *GEO-2000*:

◆ **Deforestation**: The world's forested area declined from 11.4 km² per person in 1970 to only 7.3 km² today. Deforestation is concentrated in the developing world, where over 150 million hectares of forest has been cut down in the 1990s.

◆ **Soil degradation and desertification**: Since 1945, almost 2 billion hectares has suffered degradation, with developing countries sustaining some 80% of the damage.

◆ **Water impacts**: Annual water withdrawals increased from 1365 km³ in 1950 to 3670 km³ in 1995, and water availability has fallen by almost 50% since 1950. Much water loss is irreversible, the result of groundwater overpumping and depletion of aquifers that would take thousands of years to replenish.

◆ **Decline in fish stocks**. The marine catch has quadrupled since 1950, but stabilized in recent years as the productivity of fisheries stagnated or fell. Some 25% of the fish stocks for which data are available are depleted or threatened, and another 44% have been fished to the limit of biological capacity.

◆ **Loss of biodiversity**: About 12% of mammal species, 11% of bird species, and 4% of reptile and fish species are threatened. Half the world's mangroves and some 10% of all coral reefs have been destroyed.

Table 4
The world's priorities? (annual expenditure)

Basic education for all	$6 billion[a]
Cosmetics in the US	$8 billion
Water and sanitation for all	$9 billion[a]
Ice cream in Europe	$11 billion
Reproductive health for all women	$12 billion[a]
Perfumes in Europe and the US	$12 billion
Basic health and nutrition	$13 billion[a]
Pet foods in Europe and the US	$17 billion
Business entertainment in Japan	$35 billion
Cigarettes in Europe	$50 billion
Alcoholic drinks in Europe	$105 billion
Narcotic drugs in the world	$400 billion
Military spending in the world	$780 billion

a. Estimated additional annual cost to achieve universal access to basic social services in all developing countries

Source: Euromonitor 1997; UN 1997; UNDP, UNFPA and UNICEF 1994; Worldwide Research, Advisory and Business Intelligence Services 1997

Development issues related to consumption

Poor households generally spend a greater proportion of their income on basic needs – food and shelter – and therefore have less to spend on health care, education, and the transport that is often essential to reach jobs that pay a living wage (**Table 5**). These conditions can limit earning ability and opportunities to escape poverty, resulting in a vicious circle of poor education, poor health and low income. Inability to meet basic consumption needs is especially hard on children, who often suffer stunted growth and mental development. Long-term problems such as poor health, low earning potential and high mortality constitute a significant loss of human resources and an ongoing development constraint. Higher consumption is critical to long-term improvements in human development in many countries.

Gender differences in consumption

Gender has a significant effect on consumption. In traditional and post-industrial societies alike, women make the majority of household purchases. They are the largest group of consumers world-wide, buying for others as well as for themselves. This does not necessarily mean that they dominate in all consumption decisions. In many countries men may have greater influence over *what* is bought, especially in the case of larger and more expensive consumer goods such as televisions and automobiles.

There are also differences between women and men in spending priorities. Women in general are more likely to spend the family income on meeting the needs of their children, and their spending is more likely to contribute to their families' well-being, while some men may spend a higher proportion on personal items including alcohol and cigarettes.

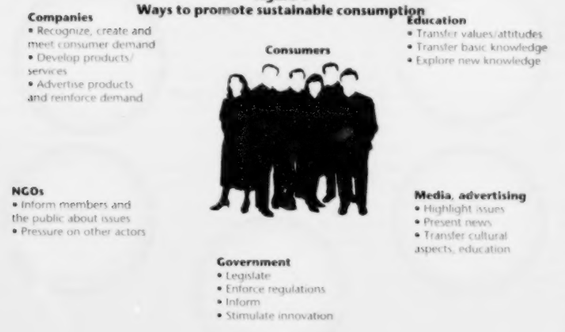
Women rank significantly lower than men in consumption of educational services, although this gap is narrowing. Female enrolment in primary schools world-wide, approximately 75% of the figure for males in 1970, has risen to almost 90%. In developing countries, female enrolment is 87% of the figure for males; in the least industrialized countries it is 76%.

Table 5
Share of household income spent on food, energy, transport, health and education

	Lowest income quintile (%)					Highest income quintile (%)				
Country	Food	Energy	Transport	Health	Education	Food	Energy	Transport	Health	Education
Sierra Leone	67.9	6.6	1.9	2.7	1.8	53.9	3.3	8.9	4.7	3.2
Costa Rica	54.4	9.4	4.2	2.1	0.7	29.1	7.5	19.5	4.8	1.0
Thailand	52.8	5.0	3.8	2.6	1.2	25.2	2.9	20.3	3.9	2.1
Jordan	43.4	7.6	3.5	2.4	1.3	32.1	4.1	16.8	2.0	4.7

Note: Data are from household surveys conducted 1987-94
Source: Sierra Leone, Central Statistics Office 1993; Costa Rica, General Office of Statistics 1988; Thailand, National Statistical Office 1995; Jordan, Department of Statistics, 1993

Figure 4
Ways to promote sustainable consumption



Sustainable consumption indicators

How can we tell if consumption is sustainable? Welfare and well-being have traditionally been indicated by gross domestic product, but GDP measures only quantity of production. It does not include resource and other environmental costs. The UN Division for Sustainable Development is developing a set of sustainable development indicators that include measurements of changing consumption and production patterns. Core indicators for resources include energy consumption, intensity of use, proportion of renewable energy sources and prices; total requirement for and intensity of use of materials; and intensity of water and land use. There are also indicators corresponding to various broad types of consumption needs, including food, shelter, transport, consumer goods and services, and recreation.

As shown in Figure 4, successful sustainable consumption strategies must address the roles of all actors in the consumption and production process. A Norwegian government study has identified a number of ways individual consumers can reduce their consumption impacts. They can purchase environmentally friendly products, with a preference for those labelled as such; they can use products and organize household activities in ways that maintain the existing level of service while using fewer resources and lowering the environmental load; and they can reduce consumption altogether (reducing the level of service), which will mean a change of lifestyle.

Increased consumption is related to, but not identical to, human development. To be sustainable, consumption needs to ensure that the basic needs of all are satisfied, strengthen human capacities, and be socially responsible.

Sources used for this report include:

- FAO, FAOSTAT database, 1999.
- International Telecommunication Union, *Telecommunication Indicators*, 1999.
- OECD, *Towards More Sustainable Household Consumption Patterns*, 1999.
- UNDP, *Human Development Report 1998*.
- UNDP, *Changing consumption patterns in human settlements*, 1997.
- UN Division for Sustainable Development, *Measuring Changes in Consumption and Production Patterns*, 1998.
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- UNEP, *Advertising and Sustainable Consumption*, 1999.
- UNEP/Earthscan, *GEO-2000*, 1999.

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Achieving more sustainable consumption patterns does not necessarily impose costs on consumers or reduce their quality of life. Much can be achieved through introducing sustainable consumption logic into the management of critical sectors such as transport and energy systems, water supply and wastewater disposal, management of solid waste generation and disposal, construction or modification of buildings, and the design of settlements. For most of the world's population, this does not imply limits on what they currently consume. There are clear limits, however, to the sustainability of the current consumption patterns of higher income groups in urban areas the world over. If the wealthiest countries want to ensure international agreement on setting limits, they need to become models of sustainable consumption themselves.

UNDP and UN Centre for Human Settlements (Habitat), Expert Group Meeting on consumption patterns in human settlements, 1997

Consumption clearly contributes to human development when it enlarges the capabilities and enriches the lives of people without adversely affecting the well-being of others. It clearly contributes when it is as fair to future generations as it is to the present ones. And it clearly contributes when it encourages lively, creative individuals and communities.

UNDP Human Development Report, 1998

More sustainable consumption: the role of government

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Abstract
Globalization of trade means that governments need to share experiences and harmonize rules. Aid to individual countries can supplement (but not substitute for) national measures in these countries. Sufficiency and efficiency strategies, including green taxes and regulations and changes in land use planning, will be beneficial in poor countries as well as rich ones. However, measures affecting trade must be carefully examined so they do not have unintended effects. Governments should not just tax and regulate, but also inform and inspire.

Résumé
La mondialisation du commerce exige des Etats qu'ils partagent leurs expériences et harmonisent les règles. Une aide peut compléter les mesures adoptées au plan national (mais non s'y substituer). Les stratégies visant à garantir l'efficacité et le volume des échanges commerciaux, notamment les taxes et les réglementations vertes, la modification de la planification de l'utilisation des sols, seront bénéfiques pour les pays pauvres comme pour les pays riches. Mais les mesures de réglementation du commerce doivent être soigneusement étudiées afin d'éviter tout effet indésirable. Les gouvernements ne doivent pas se contenter de taxer et de réglementer, ils doivent aussi informer et motiver les citoyens.

Resumen
La globalización del comercio implica que los gobiernos han de compartir sus experiencias y armonizar las normas. Las ayudas pueden complementar (aunque no reemplazar) a las medidas nacionales. Las estrategias de suficiencia y eficiencia, incluidos los impuestos ecológicos y las normativas, así como la modificación de los planes de explotación del suelo, beneficiarán tanto a los países pobres como a los ricos. Sin embargo, las medidas que afectan al comercio deben examinarse atentamente para evitar efectos imprevistos. Los gobiernos no deben limitarse a tasar y crear normas, sino que además les corresponde informar y dar ejemplo.

Eco-efficiency policies should address production and consumption

We know that companies can save money and resources by undertaking a critical review of what they finally get out of the goods and services they purchase. Eco-efficiency – minimizing environmental damage per unit of value added, while keeping within nature's carrying capacity – has been widely accepted as the aim on the production side of the economy.

Private consumption, as well as government procurement and management, will benefit from similar attention to use of energy and materials. On top of direct benefits come the multiple gains to society of avoiding the waste that is inevitable in the chain from resource extraction to final use. Save one kilo of product at the consumer stage, say by doubling product life or doing without, and you may save a tonne of raw materials and reduce waste, energy and transport along the production chain.

Some problems, such as the presence of mercury or cadmium in products, are unsuitable for consumption side measures and must be addressed at the product design and production stage. Other problems, such as emissions from energy use and transport, can be handled far more efficiently by combining production and consumption side measures. The option of taking end use measures provides the additional benefit of freedom of choice. The public, for instance, might prefer to reduce electricity use in peak periods by 10% rather than ultimately having to pay for more generating capacity.

International best practice must follow on international trade

Tax and spend, enact and enforce common rules: this is the everyday role of government in environmental as in other matters. The difficult part is to decide how and what to regulate, tax or promote when global competitive pressure limits our own freedom of action.

In the past, air and water conformed to the standards followed by consumers' local suppliers. There would be direct pressure on producers, as well as consumers, if local resources were damaged or depleted. There would also be considerable pressure to accept quite onerous burdens in order to preserve jobs and income. The saying "where there is muck there is brass" does not just mean that wealth follows dirt; it may also signal an accepted trade-off. This is where governments must act to make sure that one form of resource use does not destroy another, and that the interests of all consumers are not sacrificed to benefit a few. Throughout history, collective action has been taken to ensure this. The water courts of the Middle East are very ancient; grazing in the commons was strictly regulated in Norway in Viking times; and in Britain the Alkali Inspectorate was established in response to the Industrial Revolution.

Today, expanding markets move raw materials and finished goods around the world. Products are consumed long before long-term environmental effects can be experienced by consumers, and the damage that occurs in some producing countries would never be accepted in the countries where the final products are consumed. Measures to change this impact are a matter partly of enforcing adequate national standards, and partly of curbing the sheer volume of certain activities. To make the economy more sustainable, governments need to examine both production and consumption.

In theory, governments establish stricter standards or levy a charge on emissions if the production process is a burden on local ecosystems. This will then feed through to consumers, who in turn will change their buying habits. Often, however, environmental costs are *not* included in the price. The immediate costs of such damage are "subsidized" by the producing country. They remain invisible to the consumer, and both consumption and damage are greater than they would otherwise be. In a competitive world, fear of losing markets and jobs can stop environmental reforms. Only through international cooperation to set comparably strict standards can this fear be alleviated.

National governments have a duty to protect national consumers, but governments also need to cooperate to protect consumers against cross-border effects. Not only finished goods are exported: toxic materials released during the production process are involuntarily exported by wind and water. Such processes are amply documented, and some progress has been made in establishing regional and global aims with regard to pollution and ecosystem conservation. This is clearly a matter for international agreements, monitoring, arbitration and, as a last resort, sanctions.

In practice, governments may have too little capacity to act and may lack insight into long-term consequences. Thus, there is a need for international cooperation in capacity building, partly directed to governments, partly to business. Donor countries have already taken on this challenge. UNEP's Cleaner Production Programme is one example: companies can save money by consuming fewer natural resources at the same time that they protect environmental values by emitting less.

Action by, and aid from, rich countries cannot substitute for global measures

National interest and international treaties give a clear mandate for sustainable production. Governments have also found that legal frame-

works promoting environmental accounting go along with better quality control, and with well managed and profitable companies. This is why countries in the European Economic Area have adopted the EMAS accounting standards.

On a global scale, countries may seem to have widely differing interests. In negotiations in the UN's Commission for Sustainable Development (CSD), OECD countries promote the use of eco-effiency and a factor 4 or factor 10 reduction of resource use. Just as with environmental problems in general, developing countries often regard this as most relevant to the rich countries. Postponing leaner production and sustainable consumption until they become rich may, however, waste their natural resources and wealth along the way, so that they never get rich in the first place.

In the CSD we also face calls for development aid to fund the infrastructure of sustainable production and consumption, with the implication that without aid nothing will be done. On a global basis development aid is much too small, but even if the UN aim were reached, doubled or tripled, the bulk of development funding would have to come from within the country where investments are required and the private sector would need to have a role. This can easily be seen from the enormous sums involved.

Even in the case of the massive environmental aid to eastern Europe in the last decade, most environmental investments came from within the countries themselves. In Poland, for example, it is estimated that over 95% of investments were from within the country. Globally, the size difference alone means there is no way the billion inhabitants of the donor countries can pay for all the needs of the 5 billion in the poor world. Let me give an example. The world's largest source of concessionary funding for the environment, the Global Environment Facility, has 2.8 billion dollars to use by 2001. A substantial part of this amount supports measures to avoid climate change. The entire capital of GEF, however, would buy only one 1000 MW hydropower station. To cover the increase in energy use *outside* the OECD over the last ten years in this way, 526 such GEF funds would be needed.

Aid to achieve more sustainable production therefore cannot be in the form of building factories and renewing power plants, but must be catalytic and help local talent establish better routines, establish a proper economic and regulatory framework, and do the groundwork for investments. In one country where Norway helped establish a cleaner production programme, we reached one-third of all target companies in less than ten years, achieving substantial savings in resource use and emissions at negligible cost.

Consumption-side measures give governments more freedom of action

Just as companies can save raw materials by examining whether their consumption is efficient, societies may profit if all consumers re-examine the structure of their consumption. In Norway, the government has just proposed that local authorities evaluate all energy options, including more efficient heating and energy-saving alternatives, when they plan new developments or refurbish older settled areas. The intention is to gain freedom of action through not just having to build more power plants. This allows a wider choice of means to achieve the final aims of consumers (with lower costs and less environmental damage) through investments in other infrastructure such as district heating, efficient lighting, or added insulation in buildings. Focusing on consumer value also creates new business opportunities: energy service companies and companies marketing transport solutions may flower.

The huge amounts of energy and material flowing to the final product means that extending product life or even managing with less material intensive solutions can be leveraged. In Germany, total material flow through the economy (excluding water) in 1991 was 90,000 kg per person. Even small reductions in final use will therefore have enormous knock-on effects. Matching energy quality (exergy) to energy use by reserving electricity for high-quality purposes is another obvious step. Even the Norwegian energy system, which has 99.9% renewable electricity (hydropower) plus a roughly equal amount of fossil fuel use, only utilizes a fourth of the capacity of the energy inputs to perform work. Total efficiency is an unattainable goal, but there is considerable room for improvement. In private homes and services, for instance, only 10% of incoming exergy is utilized effectively.

Sufficiency and efficiency aims benefit rich and poor, but tools should be chosen carefully

Reasoning appropriate to the wealthy is not just relevant in rich *countries*. Both developed and developing countries contain large, well-off, high-consuming *groups* to whom consumption-oriented policies apply. The deeper debate on the aims of development looks at both rich and poor countries. The question is raised: why do all countries seem to accept the level of consumption and lifestyle of the newly rich as an aim in itself, rather than good health, a knowledgeable population, good institutions and a beneficial social structure?

On closer examination, one discovers that the poor in many places use very expensive water and energy with very low efficiency, and that they can realize enormous economic and environmental gains through simple improvements in end use. Reviving the use of traditional water harvesting in the Ghat hills of India is one example. China's efforts to improve cooking stoves is another. Very similar products are often used in many different countries, and improvements made in one part of the world can easily benefit all.

Sustainable consumption aims can be determined by examining both efficiency and sufficiency. Damage per unit of service rendered is one yardstick, and volumes consumed is another. Since prices do not actually reflect the damage done, consumption policy cannot rely on price signals alone. One approach is for governments to facilitate investment in infrastructure that enables consumers to gain the same benefits with less environmental damage. Another is to ensure that enough information is available to make a conscious consumer choice possible.

The first steps in removing subsidies may well be painful, but they are absolutely necessary to enable consumption measures to act on a par with expanding production. In addition, removing general product subsidies will free up huge sums for targeted support to the poor. Global energy subsidies alone exceed all development aid, and usually car owners do not face the full marginal costs of expanding road capacity. Once freedom of action is established, it may be discovered that savings on air pollution, road congestion and health go together with economic benefits. The Pew Center on Global Climate Change has just published a study on the true costs of delivering new energy to consumers. It finds that 50 GW, an amount corresponding to the total energy use of Pakistan, could be saved for less than the capital cost of installing new coal-fired capacity.

Many countries have created labelling systems, and environmental management and auditing routines, that can show how much damage is done and where. Even though an activity may be legal where it occurs, consumers can judge whether the level is acceptable to them. Consumers who do not wish to contribute to production processes they disapprove of can vote with their money. If enough others follow suit, processes will change.

This immediately touches on two ideals of free trade: consumer choice, and market access. It can be argued that they go together. In the longer run, the public will not support more open market access if the ultimate effect of the goods they buy on their own living conditions cannot be ensured. This is hotly debated in the UN CSD every year. Poor countries fear unreasonable trade boycotts, while rich ones are torn between a clear domestic mandate for green procurement and the fear of new technical barriers to trade. The marketing reality, however, is that people increasingly demand to know about residual chemicals in food and clothes and do not wish to be held personally responsible for cutting down the rainforest or exterminating indigenous people and threatened species.

In this context, there is a need for quality-controlled knowledge, not just opinions. Measures to curb paper consumption, for example, have been justified by the need to protect tropical forests. With 99% of paper made from other raw materials, this is an example of the potential for consumption-oriented slogans to go wrong. Poor countries wanting to sell their goods on the market probably have a strong economic interest in actively using the environmental labelling systems of the OECD countries to document that environmental prejudice against developing countries' exports is often ill-founded. Forest Stewardship Council certification of tropical hardwoods is an example of a confidence-building label. Even if all foreign consumers came to use it, however, we would have to realize that most losses of original forest cover are in response to national demand for land and raw materials. This means that enlightened consumption in foreign countries can never substitute for government action in the country of origin.

Governments should inform and inspire

Governments do not just tax, spend, regulate and enforce; they can also inspire and point society in the direction it should go. Announcing tax reforms, and changes to grants and charges, well in advance will steer investments. Even a simple "regulatory weather forecast" can stimulate public debate on connections and causality. To succeed, however, policy intentions must inspire – and find resonance with – broad groups of voters.

Authors, pop stars, clergymen, talk shows and ad agencies may sway public opinion, but governments have the means to communicate *and* to act consistently over the entire spectrum of measures available. Usually administrations are so fragmented that each department that is full of good intentions is frustrated by the unchanging aims of all the others. Keeping this in mind, we see that sustainability has to be promoted in concert by different parts of government, central and local. To gain acceptance, benefits to health and the economy, and improved long-term security, have to coincide with environmental improvements.

Public campaigns do not always yield results. Years of preaching the ills of car use have not changed the traffic situation. Just giving each commuter a bad conscience does not do much for the environment. On the other hand, we know that lifestyles do change and that business keeps spending money on advertising campaigns to sell goods. Through research and education, and rules on labelling and the description of products, governments can ensure that the knowledge background is present. They may create this immaterial infrastructure, but they cannot act in a vacuum: cooperation between all parts of society is needed.

Concerns related to the global food supply chain are one example of biodiversity and toxic waste (as well as the sheer volume of interconnected food and products) having to be addressed simultaneously. In different shapes, concerns about clean air, safe food and water regularly reach the public agenda. Heroic measures are called for in each instance, but only concerted action by government, industry and consumers can deliver long-term results. Integrated product policy is intended to secure such an eco-efficient production process. Its aim is products with a long and frugal life, followed by safe final disposal, as well as measures that encourage consumers to meet their needs in the most environmentally friendly way possible.

A to-do list for governments should start with examining strategy. A study published by the EU's environment agency advocates a mixture of an *efficiency* strategy (such as eco-efficiency in production), a *sufficiency* strategy for consumers (including cultural innovation), and environmentally friendly *product development* (extending lifespan and reducing material intensity). Such a three-pronged approach includes a clear role for government.

Governments are responsible for infrastructure, education and research. As consumers, they can examine their own performance and demand that their suppliers certify their goods through EMAS or similar initiatives. Some governments have long had legislation mandating deposit-return schemes for bottles and cans. Deposit-return schemes for cars and electric appliances are perfectly feasible and in operation. Governments can implement green tax reform, setting a lower tax rate on jobs that we want and ensuring higher costs for environmental damage, which we wish to avoid. If a tax on greenfield developments is not sufficient, local governments can develop land use strategies that revitalize "brownfields" in city centres and encourage transport-efficient growth.

Some Norwegian efforts

Giving advice is easier than implementing it, so one should always ask what is actually being done. In the CSD and elsewhere, a succession of Norwegian environment ministers have been pushing for more sustainable consumption. What happens on the ground in Norway?

A programme of green taxation has been elaborated, and parts are being realized. However, in the face of charges that are already controversial the role of administrative measures is being carefully studied. Like most taxpayers, Norwegians like the spending part but not the collection, and both are at the higher levels among OECD countries. Filling the tank of the car with heavily taxed petrol at 10 kroner (approximately US$ 1.25) per litre does not make the Minister of Finance popular, but it helps keep income tax from going even higher and does benefit the environment.

Over 20 years, use of energy per unit of GNP has fallen by 25% although total energy use is still increasing. The government aims to limit use of energy over and above the business-as-usual scenario. It regards saving energy as the most environmentally friendly path forward and intends to limit the growth of electricity use. Programmes for district heating, heat pumps and use of waste energy have been instituted, and the EU's efficiency labels are required on appliances. Twenty regional energy efficiency centres have been established to give advice to businesses and private consumers. Energy companies are obliged to fund this activity, and 0.002 krone per kWh is added to consumers' bills to fund it. This charge is set so that competitive pressures to sell electricity do not discourage consumers' efforts to save energy.

The Ministry of Children and Families has just formulated a new consumer policy that includes consumer education and the right to information on the environment. Energy, housing and food are identified as key areas. The Ministry's affiliated research institute, SIFO, has analysed a "green household budget" in order to provide advice to consumers and examine the costs associated with more environmentally friendly private consumption. It has found that decisions made by government and business weigh far more heavily than those made by consumers, but it regards action by private households as highly influential in the long term because of the signals changes in consumption send to the production system. SIFO recommends buying goods that have a longer life and those with green labels, eating eco-foods (more vegetables, less meat), saving energy in the home, travelling less, using public transport, and sorting waste before disposal. Infrastructure enabling waste sorting at source in homes and businesses has been set up by local authorities and is supported by centrally determined differentiated waste charges.

Although SIFO concludes that, in the long run, population growth has a greater negative impact than a changing menu, it has examined the environmental consequences of different daily menus, proposing and costing meals with a minimum impact. Among their recommendations are using local products in season, which reduces the need for transport and supports local markets and jobs.

The Ministry of the Environment has established a group that provides management services, Green in Practice (GRIP). GRIP gives advice on managing buildings efficiently, ranging from reuse of building materials in construction to daily use and procurement policy. It has a programme aimed at hotels and the tourist industry. GRIP also cooperates with financing institutions and businesses on corporate reporting, runs courses, and maintains a database on chemicals.

NGOs have long experience in running a programme for households, *Miljøhjemmeverket*. In addition to their information activities, they have engaged 50,000 households in voluntary contracts to reduce their environmental impacts.

Future work

My conclusion is that governments do need a consumption oriented environment policy. Damaging production has been addressed nationally for many years, and diffuse sources of environmental damage now dominate over point sources. It may now be less costly to achieve the next step through consumption-side measures. Use of standard routines that require road builders and utilities to invest in new capacity, dependent on a concurrent evaluation of options for savings and efficiency gains at the user level, is one method. Continued green tax reform is another. To gain acceptance, however, political momentum must be created. Published benchmarks and comparisons of products, companies and countries will help focus public interest, but alliances among environment, consumer and professional organizations must also be sought.

The greatest challenge may be to achieve a mutually supportive framework at an international level. We can achieve uniform legislation and broadly similar economic frameworks within smaller areas, such as that regulated by the OSPAR Convention or within the European Economic Area. To achieve durable results, we need to build a global climate of cooperation through bilateral efforts by mobilizing the private sector and via the United Nations and the global institutions. This is why Norway will continue to rely on global environmental policy development through the political processes of the CSD, and on capacity building through UNEP, UNDP and the multilateral banking system. ◆

Sustainable consumption provides opportunities for developing countries

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Abstract
Reforming production and consumption in industrialized countries – and around the world - is often perceived as threatening developing countries' economic development. In fact, making sustainable consumption viable will require simultaneous changes across the board. This will include not only finding ways to reduce consumption of non-renewable resources, emission levels and waste generation, but also taking positive actions to satisfy everyone's basic needs.

Résumé
Les changements de modes de production et de consommation dans les pays industrialisés - et partout dans le monde - sont souvent perçus comme une menace pour le développement économique des pays en développement. En fait, rendre viable la consommation durable exige des changements simultanés à tous les niveaux. Cela signifie qu'il faut non seulement trouver les moyens de réduire la consommation de ressources non renouvelables, les volumes d'émissions et la production de déchets, mais aussi prendre des mesures positives pour répondre aux besoins élémentaires de tous les êtres humains.

Resumen
La reforma de la producción y el consumo en los países industrializados (y en todo el mundo) se percibe a menudo como una amenaza para el progreso económico de los países en desarrollo. De hecho, para asegurar la viabilidad del consumo sostenible, serán necesarios cambios simultaneos generalizados. Entre ellos, no sólo hay que hallar el modo de reducir el consumo de los recursos no renovables, la cantidad de emisiones y la producción de desechos, sino también poner en practica iniciativas positivas para satisfacer las necesidades básicas de todos.

Sustainable consumption – a concept for the rich?

It is first and foremost the responsibility of the industrialized countries to bring about changes in the consumption patterns and lifestyles that use up the Earth's natural resources and threaten sustainable development. Chapter 4 of Agenda 21 ("Changing Consumption Patterns") calls on these countries to take the lead in achieving sustainable consumption (and production).

But isn't it also true that reforms in production and consumption in the industrialized North – and around the world – present risks with respect to the economic development of the South? Lower material inputs, for example, imply falling demand for raw materials from developing countries. Higher transport bills (resulting, say, from the internalization of costs) would make it more expensive to ship goods from developing countries. If the economies of the North achieved a revolutionary breakthrough towards greater efficiency or even self-sufficiency (i.e. sustainable development), might we not be faced with the paradoxical outcome of the South being uncoupled from the world economy?

Responding to this concern, the debate among policy-makers since the Earth Summit in 1992 has taught us to view sustainable consumption as a concept whose viability depends on simultaneous changes across the board – in both industrialized and developing countries. This requires minimizing consumption of non-renewable natural resources, slashing emission levels and reducing hazardous waste, but it also demands positive action to satisfy everyone's basic needs.

Without ignoring the risks implied by a one-sided notion of sustainable consumption geared exclusively to the North (e.g. due to additional trade barriers, green protectionism), the following focuses on the enormous opportunities a change in the world's consumption patterns towards sustainability opens up for the developing countries.

What's in it for developing countries?

The potential benefits for developing countries can be found in the economic trends, future markets, and opportunities for both entire economies and individual companies in these countries that would result from a switch in consumption and production patterns towards sustainable economic management. Some are already apparent and effective, while others can only be anticipated. To simplify matters, we can summarize them under seven headings:

Managing production chains towards sustainability

Moves towards changes in products, either by consumers or by major individual producers, impact the entire production chain. By taking a proactive approach (e.g. by introducing environmental management systems or upholding environmental standards in trade), producers in developing countries can set an example. The leading multinational corporations, in particular, have a major responsibility here to ensure that they give small and medium-sized suppliers a fair chance when dealing with suppliers and their own subsidiaries in the developing world.

Meeting the needs of the green consumer

Considerable scope exists for increasing the supply of goods and services from developing countries to meet demand from environmentally sensitive and socially aware consumers, particularly where this offers comparative benefits. The potential for increasing the share of "socially just" organically grown produce among the developing world's exports is enormous. Witness the success of fair trade outlets, even if they cater only for a market niche at present. Using a higher proportion of natural fibres in textiles is another promising field. And let us not forget the huge potential of ecotourism and the economic benefits developing countries can derive from their rich biodiversity. However, this depends on the North dismantling its trade barriers, giving SMEs in the developing countries a fair chance while expanding gentle tourism, reaping the benefits of biodiversity while respecting indigenous cultures, and vesting control in the hands of those directly affected.

Leapfrogging

The developing countries can bypass the stage of industrialization, which included wasteful use of resources and dirty manufacturing processes in the North. Clean production, integrated management systems, methods of incorporating environmental protection in the production process, and clean, intelligent technologies have all been developed. We need much broader access to them, as well as imaginative new forms of technology cooperation.

Replacing products by services

Dematerialization, or the substitution of products by services – one aspect of sustainable consumption being discussed in the industrialized nations – is a fact of life in the poor economies of the South. Even today these countries service and repair a greater proportion of products, and sort and recycle more refuse, than those of the North. If we view the "economy of the poor" as something valuable that deserves support, what are now seen as tell-tale signs of poverty (a large informal sector, low wages) can be turned into a new strategy for sustainable economic development in the South.

Meeting basic needs

For the developing countries, sustainable consumption is primarily a matter of ensuring a modicum of infrastructure, education and health care for their populations. This calls for economic growth. Some of these growth processes have been initiated by the state, although they rest increasingly on public-private partnerships. They will only be sustainable if they break with conventional Western values. The demand for mobility can be satisfied without everyone having their own private transport. Telecommunications can help optimize educational systems. Power supplies can be focused on highly efficient strategies and draw on renewable energy sources. These are the growth markets in the developing world. They can be served mainly by SMEs from the South (but from the North as well).

Green procurement

Demand by the state (and other institutions such as churches, foundations, etc.) for goods and services is an appreciable factor. Public administration's share in the total amount of commodities consumed can be as high as 20%. The state is the leading economic player in many developing countries. Public policy can boost ecological and social concerns if it makes a point of buying from SMEs, introduces ecologically sound procurement guidelines, etc.

Using indigenous knowledge and skills

Traditional local techniques are an asset. Combined with advanced know-how and leading edge technologies, they can help strengthen local and national economies. And cultural diversity, the strength of cultural traditions and values, and their expression make all the difference when it comes to satisfying new, intangible needs. The less individual well-being depends on material wealth, the more important non-material needs become.

Conclusion

It goes without saying that these seven domains are concerned to a large extent with trends (implying a gradual process), and that the effects of unsustainable economic practices continue to weigh heavily. But the policy framework is the main determinant and condition of success or failure. Sad to say, "perverse subsidies", trade barriers, and national and corporate self-interest continue to dominate the scene.

Development assistance, too, must be redefined in this context so as to advance the transition by supporting international and national cooperation mechanisms (encouraging intersectoral collaboration spanning entire production chains and public-private partnerships to satisfy basic needs) and by broadening access to markets and spreading good and best practice.

However, it is clear that changing consumption and production patterns cannot be the task of government authorities or development agencies alone. In periods of growing liberalization and globalization, governments lack more than ever the capacity to regulate and control national and international development processes. Therefore, all social and economic players and stakeholders must develop strategies in their field of action in order to achieve more sustainable consumption and production patterns. Government, business, and society as a whole should be encouraged to tap their capacities to contribute to more sustainable consumption. The business community has a particular responsibility in this context.

There are no simple blueprints for making consumption and production in the world more sustainable. This goes for North and South alike. The solution lies in learning from each other and sharing experiences. ◆

The International Business Forum "Sustainable Consumption and Production: Creating Opportunities in a Changing World", organized by the Carl Duisberg Gesellschaft (CDG) and UNEP, took place in Berlin on 13-15 October 1999. Directed at leading figures from industrialized and developing countries, it facilitated contacts and cooperation among the participants. By approaching the issue of sustainable consumption and production from a *business as well as a North-South perspective*, it helped promote international exchange of experience and information among business, governments, international organizations and NGOS.

Key questions addressed included:

- How can business successfully respond to the challenge of sustainable consumption and production (SCP)?
- What instruments in terms of product, process and service innovations are currently applied, and how can companies effectively communicate their commitment to SCP?
- What measures can be taken within the supply chain to improve environmental and social performance, and what kinds of stakeholder partnerships have emerged during recent years?
- What are the implications of SCP for regional and international trade?
- What role do traditional values play in promoting SCP?
- What means exists to promote dialog and action in this field both locally and internationally?

The Conference Report and a background paper will be available in May 2000 and can be ordered by E-mail. CDG and UNEP are planning follow-up activities in different regions.

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The United Nations Guidelines for Sustainable Consumption

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In July 1999, the United Nations Economic and Social Council endorsed a new version of the UN **Guidelines for Consumer Protection**. The revised Guidelines call on governments, in consultation with business and consumer organizations, to develop or strengthen national consumer protection legislation and regulation to take into account the environmental impacts of goods and services throughout their full life cycle. The revised version was presented to the General Assembly in late 1999, where it was expected to be adopted without change.

The Guidelines for Consumer Protection, originally adopted in 1985, are intended for use by governments in developing and strengthening national consumer protection legislation and regulation. They are not formal obligations or even recommendations, but rather a body of elements governments can draw on in developing national consumer protection policies. Prior to adoption of the 1985 Guidelines, few developing countries had broad consumer protection legislation; now most of them do. A number of developed countries that had well-developed consumer protection systems before 1985 have used the Guidelines to review the scope and content of their consumer protection legislative and regulatory systems.

The implementation of consumer protection systems in developing countries since 1985 has occurred not only through the influence of the UN Guidelines, but also because they were part of the expansion of the international consumer movement to these countries. In the 1980s, consumer organizations in many countries in Latin America, Asia and Africa lobbied for legislation and regulatory systems to protect the public from unsafe goods and services and fraudulent or deceptive marketing practices. Regional consumer conferences were held, some with UN assistance, and information and experience were shared among consumer organizations and consumer protection agencies. It is expected that this process will continue with the revised Guidelines.

Expanding the concept of consumer protection

The revision of the 1985 Guidelines was undertaken in order to expand the concept of consumer protection beyond the traditional function of protecting individual consumers to include protection of the public at large from environmental degradation resulting from the production and use of goods and services. While most environmental protection and sustainability activities in the past have focused on making production processes cleaner, increased efforts are needed to promote more sustainable consumption patterns. This will require action by producers as well as consumers. Producers, which determine the choices available to consumers, are generally the best source of information on the environmental impacts of goods and services.

It is hoped that the revised Guidelines will stimulate governments, businesses and consumer organizations, and ultimately individual consumers, to consider the environmental impacts of the production, marketing, consumption and disposal of goods and materials. The revised Guidelines will be formally distributed by the United Nations to all national governments, for use in strengthening consumer protection systems. They will also be widely disseminated to various groups to promote voluntary action and broad discussion of the issues. The Guidelines can provide a basis for collaborative work by the consumer and environmental movements to promote sustainable consumption and development.

The major change in the Guidelines is the insertion of a new section III.G, "**Promotion of Sustainable Consumption**". This section begins by recognizing that informed consumers, governments, business, labour organizations, and consumer and environmental organizations all play important roles in (and share responsibility for) sustainable consumption. Business "has a responsibility for promoting sustainable consumption through the design, production, and distribution of goods and services" (para. 43).

As the Guidelines are primarily intended to support the development of public policy, the elements are generally phrased as recommendations to governments, with an indirect impact on producers and consumers. For example, governments are called on to "encourage the design, development and use of products and services that are safe and energy and resource efficient, considering their full life-cycle impacts" (para. 45). They are encouraged to work in partnership with business and civil society to develop a mix of policies for sustainable consumption, including regulations, economic instruments, social instruments, sectoral policies, information programmes, removal of subsidies that encourage unsustainable consumption and production, and promotion of environmental management best practices (para. 44). Governments are also called on to safely manage the environmentally harmful use of substances and promote the development of environmentally sound alternatives for such uses. The Guidelines call for new potentially hazardous substances to be evaluated on a scientific basis for their long-term environmental impacts prior to distribution (para. 48). Public as well as private consumption is addressed by the call for governments and international organizations to introduce sustainable practices and encourage environmentally sound goods and services in their own operations and procurement (para. 54).

The Guidelines' effect on consumers is generally mediated through public policy and producers. Consumer behaviour is most directly addressed by the provision that "Consumer access to accurate information about the environmental impact of products and services should be encouraged through such means as product profiles, environmental reports by industry, information centres for consumers, voluntary and transparent eco-labelling programmes and product information hotlines" (para. 24). The Guidelines promote the development of advertising codes and standards for the regulation and verification of environmental claims (para. 25).

With respect to international trade and cooperation, the Guidelines note that national and international environmental health and safety standards "should not result in disguised barriers to trade" (para. 46). In addition, economic instruments promoting sustainable consumption should avoid negative effects on market access, particularly for developing countries (para. 52). Governments, international bodies and business are called on "to work together to develop, transfer and disseminate environmentally sound technologies, including through appropriate financial support from developed countries" (para. 66).

The revision process

The revised Guidelines include all of the 1985 Guidelines on consumer protection in their original form, together with the new elements on sustainable consumption. The revisions were elaborated through a process involving governments, consumer organizations and (to a lesser extent) business.

Following a request from the UN Economic and Social Council, a proposed set of revisions was elaborated in January 1998 by an international expert group meeting organized in São Paulo, Brazil, by the UN Division for Sustainable Development. Most participants were from consumer organizations or government agencies concerned with consumer policy. Consumers International, which played a major role in elaborating and implementing the original Guidelines, also had a central role in the revision process. Two representatives of the business community, invited through the International Chamber of Commerce, participated.

The draft text that emerged from the São Paulo expert meeting was a very ambitious and broad agenda for sustainable consumption and production. The report of that meeting was submitted to the Commission on Sustainable Development at its 1998 session, but delegations were not yet prepared to enter into detailed negotiations. To ensure that the issue could be addressed at the 1999 session, the Bureau of the Commission organized informal consultations among governments in the fall of 1998 under the leadership of Commission Vice-Chairman Navid Hanif of Pakistan.

In December 1998, the informal intergovernmental consultations, working from the São Paulo text, reached agreement on a text for submission to the Commission. This agreed text eliminated and revised some elements of the São Paulo version. It focused more closely on consumption issues, rather than production, and moderated some of the strong recommendations for specific measures to promote sustainability.

At its April 1999 session, the Commission recommended the adoption of the revised text and submitted it to the Economic and Social Council at its July 1999 session. That action by the Commission was hailed as a substantial achievement by government delegations and representatives of consumer and environmental organizations, which called for vigorous follow-up action to promote use of the Guidelines at the national level. The International Chamber of Commerce, however, expressed concern over the broadening of the concept of consumer protection to include sustainable consumption and production. The Economic and Social Council approved the revised text and recommended its final adoption by the General Assembly in the fall of 1999.

The text of the revised Guidelines is contained in the report of the Commission on Sustainable Development on its seventh session (UN document E/1999/29).* It will also be included in the General Assembly resolution formally adopting the Guidelines, to be published in early 2000.

* *Document available at www.un.org/esa/sustdev/report99/csd7report_en.htm*

Forward to the past: revitalizing Agenda 21 to protect people and the environment

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Abstract
One way to make progress towards sustainable production and consumption is to re-read and revitalize Chapter 4 of Agenda 21 on changing consumption and production patterns. Chapter 4 was not the most prominent achievement of the 1992 Earth Summit, but its status has increased over the years. A number of relevant instruments are being developed (e.g. regarding eco-efficiency, factor 4/factor 10, ecological tax reform), though how they would be implemented is often unclear. A failure of the emphasis on designing universally applicable instruments and policies is that this has diverted attention from local, regional or national practices and priorities.

Résumé
L'un des moyens de progresser vers une production et une consommation durables consiste à relire et à remettre à l'ordre du jour le chapitre 4 du programme Action 21 relatif à la modification des modes de consommation et de production. Ce chapitre, qui ne fut pas l'aspect le plus marquant du Sommet de la Terre de 1992, a pris de l'importance au fil des ans. Plusieurs instruments sont en cours d'élaboration (notamment sur l'eco-efficacité, le facteur 4/facteur 10, la réforme sur les écotaxes), bien que souvent leur mode de mise en œuvre ne soit pas très clair. Pour avoir insisté sur l'importance d'élaborer des instruments et politiques applicables partout, on a perdu de vue les pratiques et priorités locales, régionales ou nationales.

Resumen
Una forma eficaz de progresar hacia la producción y el consumo sostenibles es releer y reactivar el Capítulo 4 de la Agenda 21, relativo a la modificación de los patrones de producción y consumo. Este capítulo no constituyó el mayor logro de la Cumbre de la Tierra de 1992, pero su importancia se ha acrecentado con el tiempo. Se están desarrollando una serie de instrumentos (sobre la ecoeficacia, el factor 4/factor 10 o la reforma fiscal a favor del medio ambiente), aunque aún no se ha establecido claramente cómo aplicarlos. Al no haber concedido la debida importancia a la creación de instrumentos y políticas que puedan aplicarse de forma universal, éstos han dejado de ser una prioridad y una práctica común a escala local, regional y nacional.

The debate on changing production and consumption patterns is ridden with puzzles and paradoxes. Born as an "unwanted" or unplanned child of the UN Conference on Environment and Development in 1992 – one whose parents, the North and the South, have since divorced – it turned out to be the greatest achievement of the UNCED consensus. By now it has numerous progeny: many new or finely tuned instruments whose purpose is to operationalize sustainable development. It has been written into the most frequently quoted chapter of Agenda 21. At the same time, nobody seems to have read this chapter in a long time, as many commitments appear to have been forgotten. The biggest paradox in this debate is that despite so many tools having been implemented, and even more having been proposed, environmental pressures continue to accelerate and are reaching dangerous levels.

So far, the focus in the debate on changing consumption and production patterns has been on economic and macro or micro management tools. Ecological tax reform, green procurement, extended producer responsibility (EPR) and life cycle management are among the concepts developed for use in changing production and consumption patterns. They belong to the shared vocabulary of environmental activists and decision-makers. However, the vocabulary needed to characterize tools for change is not yet complete. Some problems that still need to be tackled remain unnamed, while other problems have been defined too hastily.

For instance, in contrast to the popularity and wide dissemination of regulatory or economic instruments, less attention has been given so far to the institutional changes necessary to implement these proposed instruments. In particular, tools to enable greater support for sustainable production and consumption (SP&C) have not yet been addressed. For lack of public support, some of the proposals already developed are still queued up in the portfolios of lawmakers or have the status of good practice examples that have not yet been mainstreamed. These gaps and paradoxes call for rethinking both the conceptual framework of the debate and strategies to promote sustainable production and consumption. So far, changes aimed at cleaner production and sustainable consumption have been promoted as either win-win strategies for industry or ethical imperatives for consumers. The desirability of change has been emphasized at the expense of identifying and tackling the obstacles. This approach has had some success, resulting in a market niche for "greener" products that some researchers estimate at 5-12% of consumers in various countries.

But let's face the truth. The gospel of sustainable consumption and production has not yet caught on like a house afire. Commitment to the debate is confined to environmental NGOs, academics and consultants, green business networks, international organizations such as the UN and the OECD, and several environmental ministries in member governments. At stake is broadening participation in the debate and involving producers, consumers and other decision-makers in changing their attitudes, business practices and purchasing decisions.

We make several observations below on some as yet unexplored political windows of opportunity, as well as obstacles that need to be overcome in order to develop a more complete vocabulary for this debate and generate public support for changes. One way to make progress towards sustainable production and consumption is to re-read and revitalize Chapter 4.

Local and national policy dialogues on sustainable production and consumption

Agenda 21 includes commitments to develop national policy frameworks in order to change consumption and production patterns, and to ensure access to information and participation by all stakeholders in the policy-making process. While these commitments have been actualized at international level, parallel local or national initiatives have not been taken as yet. At the international level, the follow-up process with regard to Chapter 4 was supported by institutional arrangements that generated Oslo Roundtables and other international meetings, as well as CSD, OECD and UNEP work programmes. These meetings and work programmes resulted in the production of a number of consensus documents and policy proposals. They also fostered the emergence of an international multi-stakeholder community of like-minded policy makers, experts, business representatives and NGOs that provides leadership and sustains the debate.

What we need now is to generate similar processes and leadership at the local and national level. The absence of local or national participatory policy development processes allows the debate on SP&C to be caught up in a Catch-22 situation. Without participatory policy dialogues on sustainable production and consumption, there will be no public ownership of the debate; without public involvement, no larger commitment to changes can be expected and any policy proposals will only speak to those who are already "converted". The organization of participatory policy dialogues opens possibilities to create a "bottom-up" process that could develop a broader framework for the debate (complementing "top-down" expert solutions), and to reformulate the debate from the point of view of people's everyday lives and needs.

For many people, the main problem is not to save the environment but to manage contradictions between social, economic, psychological and environmental security and to have a degree of control over their lives. Many issues relating to work, health, access to income, time management, and quality of relationships with other people are interlocked with environmental issues. But policy concepts produced by environmental experts, such as factor 4 or factor 10, ecological tax reform or environmental space, though desirable, do not take into account the contradictions, complexity and diversity of everyday life or the larger institutional changes that need to be made.

A holistic, integrative, people-oriented framework

So far in discussions on strategies for changing consumption and production patterns, priority has been given to concepts such as eco-efficiency or ecological tax reform. These concepts have grown out of concerns about the ecological limits to economic growth, and whether they are determined by available resources or by the effects of current patterns and volumes of production and consumption on the integrity of the environment. The ecological limits to growth debate has generated two types of policy responses: one from environmental management and technology experts, and the other from environmental economists.

We already know more or less how sustainable consumption and production looks from the point of view of environmental economists and biologists, and some attempts have been made to assess environmental limits to growth from the equity point of view (e.g. concepts related to environmental space and environmental footprints). But there are few clues as to how sustainable production and consumption would look if defined from the perspective of the world of work and sustainable income opportunities, or from that of ensuring basic preventive health care for all. Neither have various regional and gender differentiated perspectives yet been taken into account.

Many of those contributing to the debate perceive the consumer as "a rational economic man" whose purchasing decisions are based on product price and information alone. Paradoxically, changes in consumption and production patterns have been tackled in an end-of-pipe way, when the environmental impacts of production and consumption were seen as external, unaccounted for costs that need to be internalized or as a singular fault line in the system that needs to be corrected. While sustainable development implies the integration of environmental and social concerns, issues concerning social limits to growth have been discussed in different debates. Tools such as social and environmental accountability, social and environmental impact assessments, gender impact assessments, company labour codes and environmental codes of conduct have been pursued in disjunction (if not in conflict) with each other, and sustainable development assessments or reports are far from being widespread.

Environmental policies that focus on making processing methods and products cleaner in isolation from social context may reduce environmental pressures but increase people's hardship. Ultimately, such approaches do not ensure support for SP&C. In Pakistan, for instance, a shift to cleaner cotton production leads to an increase in the workload of women, who are traditionally involved in cotton picking but have no access to or control over the income they generate even as cleaner production claims more of their time. In Romania, the installation of filters at the Azur Chemical Factory and improvements in air quality threatened workers with a decline in their meagre income, as their pay slips had included benefits for working under hazardous conditions. Unsurprisingly, the filters were not properly maintained and soon stopped being used.

As the debate has grown in the last years, it has become more fragmented in its environmental format as well. Sustainable consumption (as opposed to production) became a new and separate policy topic, and separate processes or working groups emerged to discuss issues such as environmental impacts of transport, eco-labelling and green procurement. While this approach allowed identification of priorities, consideration of one issue at a time and concretization of policy-making, it simultaneously contributed to further fragmentation since the separate topics were not linked by a comprehensive policy framework.

To address the consequences of this fragmentation and develop a more complete menu of policy tools, there is a need to look at production-consumption as complex, historically established cultural and socio-economic systems involving men and women from different gender, age, social and ethnic groups – and not just from the point of view of environmental impacts. More diverse contributions could lead to negotiating a more holistic framework for the debate, which could help place on the agenda the relationships between the social and environmental impacts of production and consumption, and how decisions and entrenched patterns of production and consumption are linked with each other and with patterns of finance, investment and trade flows, and governance.

While some work in this direction has been already been done (such as that of Hinterberger and Luks, 1998, on linkages between dematerialization, employment and competitiveness), there is still a long way to go to bring together multi-disciplinary academic teams who will come up with in-depth holistic analysis and integrative policy proposals. But academic experts or consultants cannot provide all the answers. There is also a need to bring together diverse streams of NGOs, parliamentarians, trade unions and citizens organizations to formulate sustainable production and consumption as a common political project that can play a role in electoral political programmes and have a larger public appeal.

The role of symbolic and material product obsolescence

Progress in regard to cleaner production has taken place in parallel with an increase in environmental pressures, as pointed out in several policy analyses (e.g. the UN Secretary General's report to UNGASS in 1997). A case in point is growth in the economy's transport intensity, which cancels out the eco-efficiency benefits of producing cleaner cars and fuels. Efforts to develop a more holistic framework could help make visible the obstacles that prevent cashing in on eco-efficiency gains. Among the factors explaining this paradox is in-built product obsolescence, which is an example of throw-away behaviour and of accelerated turnover in the production and consumption of ever new products *without* better quality necessarily being delivered. As a deep underlying trend in production and consumption, in-built product obsolescence began as a "sound contribution to economic growth" and developed into a pervasive entrapment mechanism that pushes producers, consumers, investors and workers into participating in an economy dependent on constant growth of production and consumption.

Product obsolescence has both symbolic and material dimensions. The factors driving it include commercial advertising and marketing, product design, the role of credit in investment and consumption, and unregulated competition among producers in the context of over-production in many sectors. As a pattern of economic behaviour, in-built obsolescence is deeply entrenched in business education, fiscal systems, and the growing role of the service sector (e.g. companies that offer marketing and promotion, management and strategic advice, banking, and other services related to business and consumer finance).

At stake is the development of analysis and policy programmes that maintain both jobs and profit-making opportunities, internalize the social costs of production (e.g. with instruments like minimum labour standards and living wages), ensure use of cleaner processing methods and products, and improve product quality and durability while creating incentives to de-accelerate production and consumption. Understanding the

factors behind product obsolescence can help develop the means to de-link economic growth from environmental pressures in ways that have not been fully acknowledged so far.

Regionalization of the debate

Almost all policy instruments are geared to create a more environmentally friendly economy in the future. This approach, which often involves high tech environmental solutions, comes from the reality of highly industrialized Western economies, where it appears to be a very sensible way to make the transition to sustainable production and consumption. In contrast to the OECD economies, many societies in the former communist block (the so-called "countries in transition") and in the various regions of the South still live within production-consumption systems that fulfil the criteria of social and environmental sustainability, or such systems are still preserved in collective memories. These sustainable production-consumption systems and practices are in the process of being lost and forgotten.

For instance, in the span of a few years the whole system of returnable bottles for beer, milk and other beverages has collapsed in Poland, to be replaced by tetra packs, cans, and a limited number of voluntary recycling initiatives (Young, 1998). Public transport, particularly by rail, has decreased across Eastern Europe while the volume of road transport has increased. Especially in Africa, but also in other regions, many traditional consumption-production systems that met people's food security needs, local building methods and local knowledge of plants' healing qualities are being lost under the pressures of misguided development policies, economic and ethnic conflicts, or production oriented towards global supermarkets (Ghai, 1992). At the same time, poverty is increasing as the costs of global economic volatility and restructuring are disproportionately paid by the poor.

Sustainable consumption and production policies developed in highly industrialized Western countries, even when they are desirable in the context of these countries' economies, do not furnish complete answers to the problems other countries face. With some remarkable exceptions (van Weenen, 1998), few of those contributing to the debate perceive regional differences as an international policy-making issue. The inadvertent Western bias in the SP&C debate is reinforced by a comparative lack of contributions from other regions. At stake, therefore, is building international environmental consensus not on the basis of uniform solutions in one top-down blueprint for all, but rather based on local and regional policy programmes that recognize the differences in development trajectories and the diversity of social, economic and environmental problems.

Sustainable production and consumption as a way out of poverty and unemployment

Poverty has always been on the agenda in the international debate concerning changes to production and consumption patterns. However, the connection between poverty and environmental policy has been formulated on the basis of generalizing assumptions. The statement that poverty is the cause of environmental degradation has no justification in rigorous policy research (Prakash, 1997). Poverty is often defined on the basis of Western definitions of a good life. In many cases, poverty and environmental degradation are linked to the common cause of misguided development policies, and to the bias in the institutions of global governance that prioritize policies geared to accelerating conventional economic growth – and trade and investment flows – while neglecting social and environmental security.

As demonstrated in World Bank and UNDP development reports, current patterns of economic growth in many countries correlate with growth in income inequalities. Growth does not always lead to diminishing poverty, and the devil is hidden in the details. In the SP&C debate, the lack of specific proposals for linking environmental and social policy led to inadvertent support for business as usual in pursuit of "dirty" economic growth, justified by claims that this would help

Sustainable consumption issues for the South

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Consumption is both a necessary and a controversial activity. Its necessity flows from the fact that human beings have to consume for survival. It is controversial when the consumption activity is performed for the sake of consumption alone.

With the spread of industrialization, the development of science and the accumulation of wealth, man has had a tendency towards conspicuous consumption. Lately, with increasing globalization, there has been an apparent democratization of such tendencies. This second kind of consumption, i.e. more than survival consumption and apparently without any visible limits, is at the centre of all controversies, debates and arguments. In this form, consumption is obviously problematic.

Of late, research, studies, natural phenomena and scientific forecasting have established that this second kind of consumption is in the long run unsustainable. It cannot continue forever. If it is carried on blindly, we will incur debt for our future generations, and for the less privileged in the current generation, which cannot be repaid.

Because of this threat to our future, there is a world-wide debate concerning the ways and means to make consumption sustainable. For the North, the problem can be resolved by downsizing lifestyles, and by developing and adopting benign or less harmful (sustainable) technologies. For the South, the problem is compounded by other elements. Both over-consumption and under-consumption exist in the South. Furthermore, illiteracy is not at a premium in the developing world, nor are institutional regulatory mechanisms in good order. The situation is compounded by the lack of social safety nets. The common man's voice is weak, and s/he is less powerful than our Northern counterparts in asking for information or even protection.

As the problem is different in the South, so the courses of action open to civil society also differ. The following aims to pinpoint some of these problems, and to suggest solutions that could be useful for these countries.

Issues for the South

The inferior quality of goods and services is one problem plaguing the consumer in developing countries. In the long run, continued consumption of such goods and services cannot be sustainable. Since civil society in general, and the consumer movement in particular, are still not well organized in these countries, consumers suffer.

In many developing countries, land is one of the most important resources. This affects the conditions for sustainable consumption.

The poverty and environment nexus is complex. When food and other basic amenities needed for subsistence are inadequate, the poor depend on the environment to provide them. So while addressing the question of over-consumption by one class, in the South one also has to grapple with the problem of under-consumption by another. A number of studies by economists have shown that poverty is often harmful to the environment, and therefore unsustainable in the long run.

The political chaos in many Southern countries has been one of the main reasons for the poor condition of their development programmes. Rampant corruption, bureaucracy, and centralized decision-making do not allow "trickle-down" programmes to operate. Irrational pricing policies, which give rise to cumulative distortions coupled with subsidy schemes, make it difficult for state planners to allocate efficiently. This leads to high internal and external debt, eventually taking the form of cuts in social sector expenditure and deterioration of the quality of welfare activities. Several industries take advantage of the weak regulatory structure in many developing economies, thus exploiting the environment without paying any of the costs. They are "free-riding", along with others who also exploit this situation.

Another trend driving unsustainable consumption practices in the South is the so-called "demonstration effect", or the phenomenon of the "Joneses". However, one should be careful to point out that a large number of people in the South do not have the wherewithal to indulge in "keeping up with the Joneses". The juggernaut of globalization, with its handmaidens like satellite television, is further aggravating the Joneses phenomenon and making people in the South subscribe to potentially unsustainable lifestyles. This is not an urban problem alone, as even the rural rich are moving to more and more unsustainable lifestyles like their urban counterparts. Such trends have also been linked to aspiration buying, i.e. changing lifestyles to meet aspirations. Surveys carried out in India by the National Council of Applied Economic Research (NCAER) are relevant in this context (**Figure 1**).

Figure 1
India's classes according to level of consumption

Very rich	6 million
Consuming class	150 million
Climbers	275 million
Aspirants	275 million
Destitute	210 million

Source: NCAER, New Delhi, 1998

Advertising has a part in influencing consumer choices. Bad or unethical advertising leads to wrong, ill-informed or unsustainable consumer choices. This is more of a problem in the South, since consumers are less well organized here. In a recent backgrounder to UNDP's *Human Development Report 1998* prepared by CUTS, such links between advertising and unsustainable choices were analysed in detail.

It is often the case that the North uses the South as a backyard for dumping obsolete and unsustainable products and technology. There are many examples. This problem is compounded by the fact that the South lacks resources for leapfrogging to more sustainable technologies.

In 1993, Charles Stewart, Executive Vice-President of the world's leading chlorine manufacturer, Oxychem, was quoted to the effect that international chloro-alkali production is shifting from the North to the South. Between 1994 and 1997, according to Greenpeace, 26 units – new and old – for manufacturing chlorine and its by-products were installed in India.

Finally, for developing countries the problem is also compounded in all spheres by weak legislation, poor implementation, and lack of direction in policy issues. Lack of awareness on the part of consumers only adds to our woes.

What can be done?

It is clear that the problem of consumption in the South has its own peculiarities. It calls for special measures by government and civil society. Links between sustainable consumption and production should be kept in mind when policies are designed and actions advocated, so that they will have real and long-term impacts.

The civil society movement in general, and consumer groups in particular, should lobby governments for a more responsible policy direction that includes sustainability as an end. This could include removal of the "perverse subsidies" that distort consumption patterns. It should also be ensured that the "conspicuous consumer class" pays environmental/consumption taxes on their unsustainable consumption practices, with the revenues being transferred to the poor in a fair, transparent and targeted manner.

There is a need for more concerted lobbying at international fora, so that the South can obtain environmentally sound technologies on fair and equitable terms. Caution should be exercised, so that such transfers do not become tied aid. Developing countries should also be asking for substantial aid to facilitate the switchover to cleaner technologies.

Eco-labelling can be a useful tool to help consumers make responsible choices. Consumer organizations and governments need to make people more aware of eco-labels. Civil society groups need to lobby for greater support of eco-labelling and for making such labelling mandatory on certain products.

Another area that needs to be addressed is more efficient technologies. Those technologies using less energy need to be promoted. Governments ought to subsidize good practices in industry, as well as voluntary initiatives that are acceptable and useful to all stakeholder groups, energy efficiency improvements, and use of renewable energy resources.

Governments also have the responsibility to balance the effects of satellite television (probably most responsible for unsustainable consumption trends in rural areas) with well produced programmes that directly or indirectly present the virtues of a sustainable lifestyle.

Civil society groups should advocate decentralized, people-based government planning mechanisms that are sustainable and lead to human development. In India, one such bottom-up planning scheme, directed towards a balanced approach to ecology, economy and equity, was tried out in some areas but later discontinued. This type of people-based planning needs to be revived.

Finally, both civil society and governments have a role to play in instilling moral values, so that people will find it less difficult to subscribe to more sustainable and simple lifestyles.

Conclusion

A study on sustainable consumption in South Asian countries, conducted by the Consumers International Regional Office for Asia and the Pacific (CI-ROAP), found no clear trends among countries insofar as sustainable consumption is concerned. In a country like India, the survey found that only 50% of the population always or often follows sustainable practices. While the sample set used in the study was quite small for a country of this size, the half of the population that does not follow such practices is a cause for concern. With increased liberalization and the winds of globalization blowing across countries, things may get worse.

At a recent press conference, the principal author and coordinator of UNDP HDR 1998, Richard Jolly, pointed out that countries need to adopt a "consumption policy" to deal with the "grotesque inequality" in the living conditions of their people and the "gargantuan excesses" in consumption by the rich few who dominate access to resources. It is time to address these problems, make amends and correct our course.

"The world has enough for everyone's need but not for everybody's greed." The immortal quotation from Mahatma Gandhi is an apt war cry in this situation.

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the poor. The stalemate can be overcome by decentring the simplifying argument of causal linkages between poverty and environmental degradation and placing on the policy agenda pro-local, sustainable production-consumption systems and their role in generating both income security and environmental security.

For the poor in Africa, regeneration of local markets and sustainable production/consumption systems is the only available way to lift themselves out of persistent impoverishment (Ghai, 1992). Focusing on pro-local sustainable production-consumption systems, and linkages between social and environmental policies, can also reduce demands for transport (Ministry for Environment, Austria, 1998) and contribute to changing the chemical base of industrial society from non-renewable to renewable resources (Douthwaite, 1996). Last but not least, a focus on income-generating opportunities in sustainable production can enable the conventional consumer to make "cleaner" purchasing decisions, as it will increase the supply of goods produced within fair trade schemes and in environmentally sustainable ways.

So far, the supply of such products has been insufficient by far. Many environmentally aware consumers, particularly in Western countries, have to "sacrifice" their time and income to search for such products. An approach geared to greening and reintegrating the interests of consumers with income-generating opportunities for environmentally sustainable producers can open new windows of opportunity and increase the share of the "green" market.

The globalized economy and changing production and consumption patterns

It is too simple to suggest that the lack of progress in achieving more sustainable consumption and production patterns is due only to fragmented policy-making and lack of public concern. The pressures of global economic rules have severely restricted the freedom of regional policy-makers in all kinds of areas. There is a growing sense of conformity among policy-makers – to one economic model, often referred to as neoclassical, and to achieving far-reaching harmonization of a wide variety of public policy measures such as fiscal and monetary decisions, health standards for food, intellectual property laws, and rules for domestic competition. The World Trade Organization in particular is becoming increasingly important for policy-makers, as many national economic measures are challenged under WTO rules as "trade restrictive". Since the WTO has a powerful dispute settlement mechanism, under which countries are allowed to seek substantial retaliation, there is clear pressure on all WTO members to avoid such conflicts. Just imagine a situation in which countries were allowed to take such retaliation if other countries impeded more sustainable consumption and production patterns!

Apart from the direct impacts of liberalizing trade and investment regimes, as mentioned above, there is a political component in the relation between globalization and sustainability. The WTO is one of the most active supporters of the notion of win-win situations, which is of course an easy way out for politicians who want to avoid conflicts with free trade. This does not mean that globalization is only a threat to sustainable development. Many Central and Eastern European countries have benefited from the more efficient technologies that replaced those of the highly polluting state-owned companies. The "global economy" also facilitates international cooperation in areas such as disaster relief and climate change.

Our challenge is to reap the fruits of globalization while maintaining policies that match local human needs. Protectionism as an answer to globalization includes the risk of protecting both inefficient and polluting activities, which would only bring us further away from sustainable societies. However, there is an important paradox associated with the strategy of benefiting to the greatest extent possible from the economic opportunities of globalization while achieving and/or maintaining sustainable consumption and production patterns. Today's proposals for uniform economic rules contain such detailed procedures that policy-makers have lost the capacity to use many public policy tools effectively in order to achieve local sustainability. Therefore, green budgeting, environment-friendly changes to the fiscal system, or new restrictions on business practices can only be developed at the international level. Such actions at the local level, reflecting local needs and priorities, will readily result in conflicts with free trade.

The global market itself poses special problems for sustainable consumption and production patterns, which can only be solved by countering this economic integration. We should not rush into new, more liberalizing agreements before the issue of sustainable consumption and production patterns is firmly rooted in national policy.

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Celebrating consumption

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Abstract

This article describes consumption as the author has come to see it, presents some background, and suggests what could happen in the future. The underlying assumption is that we can significantly improve well-being and reduce environmental damage through changing consumption processes in ways that may not be apparent from marketing and production analyses. Realizing these benefits will require acknowledging the importance of consumption efficiency (measured as "consumptivity") and devoting resources to increasing it.

Résumé

L'article décrit les modes de consommation tels que l'auteur a pu les observer, presente quelques données contextuelles et émet des conjectures sur ce qui pourrait se passer dans l'avenir. L'hypothèse sous-jacente est que nous pouvons améliorer considérablement le bien-être de l'humanité et réduire les atteintes à l'environnement en modifiant les modes de consommation d'une manière qui n'est pas nécessairement mise en évidence par les analyses de la commercialisation et de la production. Pour que ces avantages deviennent reels, il faut reconnaitre le bien fondé d'une consommation raisonnée et mobiliser les ressources nécessaires pour y parvenir.

Resumen

El presente artículo describe al comercio tal y como su autor lo percibe, ofrece algunos antecedentes y sugiere lo que podría ocurrir en el futuro. El trasfondo que subyace es que podemos mejorar considerablemente nuestro bienestar y minimizar el deterioro del entorno introduciendo en los métodos de consumo modificaciones que no son detectables mediante analisis de marketing y producción. Para cosechar los frutos es necesario ser consciente de lo importante que resulta practicar un consumo eficaz (que se mide en términos de "consumibilidad") y consagrar los recursos a optimizarlo.

This article first reviews traditional approaches to materials. It then presents a proposed model of consumption and outlines collisions between it and conventional approaches.

Traditional approaches do not adequately address consumption. Explicitly or implicitly, conventional economic discussions define consumption as the point at which a good or service leaves the market. Consumption is then a relatively simple consequence of production and trading systems. While consumer choices among products and trends in the *quantity* of consumption are examined, what people *do* with the products is generally ignored. Thus, the *process* of consumption is absent from the discussions – only purchasing is included. This is not a problem with market or production analysis. Problems arise when people believe that these analyses explain more than they do.

Other views, principally found in discussions of equity or the environment, have similar lapses concerning consumption. They take the huge quantity of consumption that occurs in industrialized countries (of resources, materials and products) as evidence that we should feel *guilty* about consumption, and consequently reduce our aggregate level of consumption. While many proponents of this view intuitively believe that quality of life need not be sacrificed (or at least not much), the argument is almost never put forward in detail, or in a compelling manner. The great benefits of current consumption patterns are minimized, so as not to undermine the "guilt" argument.

A major reason that these approaches avoid grappling with consumption is that at its core is the *destruction of value* (usually economic value). This is not a problem with consumption – it is its essential nature. It is necessary to destroy certain kinds of value to attain the services we want from materials. The idea of "consumption" (or "use") has an inherently dual nature. As "good", objects are *useful*, we as *consumers* are the primary beneficiaries of our economy and we *consume* food. As "bad", a building may be *consumed* by fire, we can be *consumed* with envy, and to *use* a person is to take unfair advantage. To aid comprehension, it is typical to pretend that one side or the other does not exist. However, a full and correct understanding of consumption requires that both be kept in mind simultaneously.

Figure 1 outlines a consumption-centred view of reality. Materials and products are produced by industrial processes, then passed on to consumption through trade and other means. Consumption is where most items are actually useful to people, where they deliver services that we want. Eventually, every item becomes more trouble to keep around than it is worth and is thrown away. Consumption begins as an item is acquired, and ends as it is thrown away. We don't ultimately want services – we want a sense of well-being. This is created by a further transformative process of *satisfaction* that is beyond the scope of this article but is a critically important topic. Materials can be recycled from disposal back into production, but that does not inform our understanding of consumption. Other approaches and diagrams are clearly necessary for other purposes.

This discussion is based on what holds true for industrial materials with a "high social content" (distinct from building materials and infrastructure materials). They are the materials we use in everyday life, which (for each material) many people interact with and make decisions about. The presence of many actors and uses is part of why consumption efficiency is significant. These are largely the same materials that end up in Municipal Solid Waste, though the fact that they end up as waste is more distracting than useful.

It is obvious that production is an elaborate, complex process, amenable to technical and other refinements to improve the results and the efficiency of attaining them. Consumption is also a process, as sophisticated as production, and – as with production – changes can be made to consumption to increase overall efficiency.

Some examples

For background, the following is a quick summary of some lessons from the analysis of two products: diapers and office paper. For each, reference is made to the popular view of the topic, the science and policy applied to them, what my own review of the data show, and some conclusions.

Diapers

For a variety of reasons, in the late 1980s and early 1990s diapers made an easy target for concerns about the environmental impacts of products. A popular view that disposable diapers were environmentally worse than cloth diapers was in large part replaced by a view that both had considerable impacts, so that consumer choice made little difference (particularly regarding energy consumption). The question grew out of concern for Municipal Solid Waste (MSW), but as MSW analysis lacks tools to address such questions, product Life-Cycle Analysis (LCA) was brought in to provide "the answer". LCA was never designed for this type of purpose. Nevertheless, inventories of average emissions were calculated and the tabular results reported. Little insight or policy followed, and the matter largely receded from view.

Examination of diaper LCA studies shows wide variation among their conclusions, and poor correspondence with the author's own calculations for home washing, and measured data from one

diaper service. Further, for home washing the individual diapering patterns, washing patterns and equipment used all greatly influence energy use. These factors are absent from the LCA analyses, which report a mythical assumed average value. Also absent from the LCA studies are most individual choices and policy options (the only choice presented is switching from one type to another). People can use combinations of diaper types to gain the special advantages of each, and there is probably more to be gained for the environment by changing *how* people use the types of diapers they already use than there is by convincing a few of them to switch from one type to another. Producers also have significant unmodelled choices, such as in materials sourcing (e.g. cotton) and in industrial process efficiency (e.g. washing equipment). Consumption analysis can reveal the quantitative benefits achievable, the institutions and actors involved, and how to effect the change.

Figure 1
Consumption at the centre

Office paper

Office paper provides another informative case study. Faced with the burden of excess information and tasks, and with paper as the physical carrier of much of this information, a common reaction is to propose banishing the medium from offices – to make them "paperless". This follows from seeing paper as embodying "paperwork" that compels us to do what we don't want to. A common assertion is that the introduction of business computers was intended to reduce paper use, and that the opposite having occurred is a sign of failure (in fact, computers were introduced for other reasons; reducing paper use was never a major priority). The *naivete* underlying this follows from a lack of understanding of how consumption actually works. Solid waste professionals rarely do more than exhort people to "please not waste paper" and to make more double-sided copies. Rigorous science and policy *have* been applied to electricity use in printing and copying, and have had success in reducing this. However, the more costly energy embodied in the paper has received scant attention.

When paper use is examined as a system, it becomes clear that there are numerous costs of *using* paper that are many times that of actually buying it, including the printing/photocopying, shipping, storage, and handling. Thus, gains from paper efficiency (economic and environmental) are considerably larger than just avoiding making the paper itself.

Several rationales can be employed, including waste, energy and greenhouse gas emissions. However, as with energy use efficiency, it is most effective to aim for cost-effective efficiency improvements in resource use (which in this case translates as "paper end-use efficiency") or in "paper use efficiency".

Findings

Both of these cases show that we lack good policy handles and rationales to address materials consumption, and that we also lack the analytical tools to effectively apply scientific analysis. This raises the question of whether some existing methods should be adapted and expanded, or whether consumption is best dealt with separately. I believe the latter is a better approach, but the question deserves further debate. The following discussion reviews the topic areas that on the surface seem most relevant.

Other approaches

My own investigations concerning materials began with the intention of applying the ideas and methods of energy efficiency to recycling. Energy efficiency (in buildings) had clear success – as an idea, as science, as good policy, and with demonstrable results. The idea of material wastes seems consistent with the notion of "wasting" energy, and recycling is the dominant approach to improving our waste systems. However, the material analogy to energy efficiency is *source reduction*, not recycling. It is possible to construct a system of "demand-side management" of solid waste to reduce its rate of production. However, the potential gains (from disposal only) from source reduction in reduced costs and environmental impacts are generally too small to be compelling. Thus, source reduction of MSW *as currently practised* is not compelling, and so not a good approach for consumption.

Recycling

Recycling is appealing and worthwhile, but essentially apart from questions of consumption and use. Materials only become of interest for recycling after they have lost most or all of their value for use, and recycling feeds the materials to production, not use processes. It is common for models of recycling to minimize or exclude the fact that materials are used. Figure 2 is a good example of this. Materials flow directly from purchase as goods to collection as waste; *they are never used*. The result of this is that knowing more about recycling usually impedes, rather than aids, understanding of consumption.

"Reuse", in theory and practice, spans the entire range between source reduction and recycling, so that it is difficult to accurately generalize about.

Figure 2
A recycling model

Source: National Recycling Coalition newsletter, circa 1994

Life-Cycle Analysis (LCA)

LCA began as "Life-Cycle Analysis of Industrial Systems" and was never designed to model use processes. It is no surprise, then, that it has been of limited help in understanding materials use or how to improve it. The way LCA is usually applied is to conduct a Life-Cycle Inventory (part of an LCA), then see what conclusions follow from the results. A more sensible approach would be first to outline the problem and possible solutions, then to assess which analytical tools apply. Depending on the topic, LCA might be dominant tool, a minor one or completely absent.

Pollution Prevention (PP)

PP is usually defined as reducing the amount of pollution per unit product. Therefore, simply reducing the demand for products is not pollution prevention. It is possible to extend PP to commercial services, and to measure pollution with respect to the trade in such services. It seems unlikely that PP could be extended to include final consumption and still be a coherent idea. This would also be at odds with how PP has been applied to date. The adoption of the prevention metaphor in "waste prevention" is troubling, as it implies preventing the original production. Pollution prevention only attempts to prevent *unwanted* by-products; waste prevention extends this, untenably, to *wanted* products.

Industrial Ecology (IE)

Industrial ecology has an ambiguous relation to consumption. Some definitions do not acknowledge the fact of consumption, and others subsume consumption as one of the entities in the industrial system. Regardless of how useful the idea of industrial ecology is for understanding production (and to some extent disposal) systems, it is not clear how it could help clarify consumption. It seems most likely that IE could be a useful companion to consumption efficiency, with each addressing largely separate areas. Consumption is rarely an industrial process, so even an ecologically centred view of consumption would not fit well with IE.

To summarize, none of these approaches is satisfactory for addressing consumption efficiency, indicating the need for separate areas of policy and science designed specifically for consumption. The following discussion delves further into the notion of consumption and consumption efficiency.

The model

The consumption-centric view is intended to be scientifically correct, as well as practically useful for effecting positive change in consumption patterns. The following terms form the core of consumption analysis.

Production

The point of engaging in production is to add *value* by consuming some resources (land, labour, capital, etc.) in order to create useful materials or products. Production usually involves much trade and many institutions to conduct, organize and facilitate it. Measurement is readily accomplished by counting both the mass and dollar quantities that are traded. The fraction of the process that is industrial in nature is usually high. Production is costly in both economic and environmental terms. Efficiency of production is measured as *productivity*. It assesses how effectively resources are transformed into products (or commercial services).

Consumption

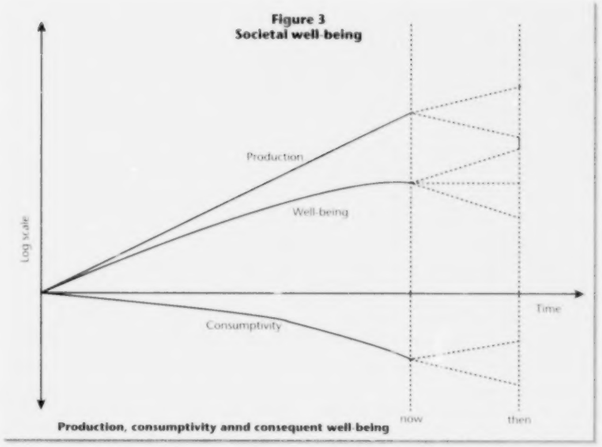
In contrast to production, the essence of consumption is that it destroys the value of materials and products. It subtracts value, or rather transforms it from product to service value. Production of commercial services still adds economic value, but many such processes have more in common with consumption than with industrial production processes. Trade is usually absent from final consumption, or when present it is difficult to measure. Measurement of consumption is difficult with conventional measures, since the lack of trade makes it unclear what mass to count, and dollar aggregation (as with production measures) has limited application. Most activities in consumption have a low level of industrial content; rather they are dominated by social processes. Costs of consumption are usually ambiguous. Defining the boundaries of a consumption activity can be problematic, and a particular product may be used in multiple activities. Environmental costs that occur in consumption vary greatly.

Consumption efficiency is measured as *consumptivity*; that is, is how effectively materials and products are translated into services that people value. While in some cases the connection between a material input and the resulting service is clear, in other cases one must assess an entire activity with a multitude of inputs and resulting services. Consumption is also tied to how we "spend" time in activities. Activities organize a "top-down" analysis of consumption (e.g. clothing, health care, information). A "bottom-up" approach begins with individual objects.

Consumption is a complex transformative process. It is important to remember that a separate process of satisfaction occurs after consumption, to translate services into well-being.

A key to understanding consumption in efficiency terms (as we do energy) is to treat materials *and products* as a flow, not as discrete objects (again, just as we do with energy). Reducing use of industrial materials through increased "materials efficiency" is defined as reducing the "mass per unit of service delivered".

Figure 3
Societal well-being



Production, consumptivity annd consequent well-being

Disposal

Disposal of materials used in final consumption has a relatively small cost by all criteria (except perhaps psychological). Disposal receives disproportionate attention because it is a convenient repository for unease with production and consumption. Also, we can improve waste systems without articulating the true nature of production and consumption (and question prevailing myths). These are some key terms, but others will need to be created or adapted as we fully address consumption.

Discussion

The consumption centered view leads to several conclusions about our present circumstances, including fundamental incompatibilities with common beliefs.

Operating myths

Conventional views of our economy and society rely on and result in several myths. Myths are stories that are not true, but are useful to treat as true in order to help explain reality. For example, while the Earth is ultimately spherical, for local purposes we treat it as if it were flat. The burden of calculating and applying the sphericality would not be worth the trouble for most purposes (such as building design). However, it is critical to know the limits of such myths, or wrong conclusions will be drawn. Several myths problematic for consumption are that:

Well-being follows directly from production (e.g. GDP)

This allows the typical belief that the "standard of living" (presumably a measure of well-being) is to be measured by production. A corollary is that "consumption efficiency" (if the term were used) is constant, in individual circumstances, across space (regions and countries) and across time. A further corollary is that there is no need to measure consumption, since production (and trade) measures will capture all that is important. The only way to increase well-being is to raise production.

Consumption occurs at acquisition

This is most often put forth by those who believe that society has insufficient guilt about consumption. Consumption is equated to shopping, and it is implied that much of what people buy is irrelevant to their well-being (this is consistent with the idea that there is "good consumption" and "bad consumption"). This myth also avoids needing to articulate how people use products.

Consumption occurs in disposal

This is most commonly articulated by those involved with disposal (such as recyclers). It presumes that minimal value is lost during use and that, so long as materials are recycled, they are not "wasted". This makes it difficult to associate consumption with all but a few costs of production, undermining most arguments for consumption efficiency.

Note that the "production implies well-being" approach neither requires nor prohibits the equation of consumption and acquisition, as one can believe that products are useful for a long period of time without acknowledging that there is any question of efficiency. A common problem with all of these myths is that they imply that consumption is uninteresting, and that understanding it better is not a priority.

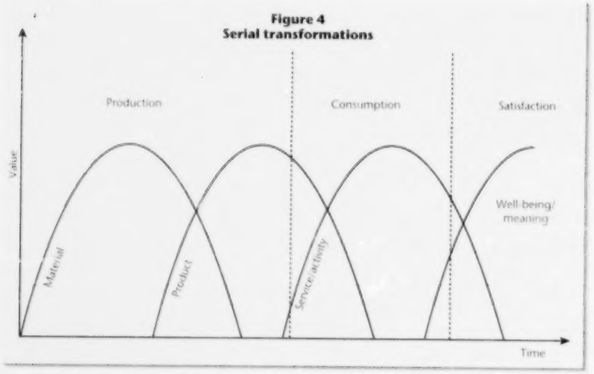
Fundamental truths

Among these myths, several truths emerge from the consumption view.

Production = Consumption *(always in the long run, often in the short run)*

This is similar to the identity between precipitation and evaporation of water, or the conservation of energy and mass in the laws of physics. Two corollaries are that "everything that gets produced

Figure 4
Serial transformations



eventually gets thrown away" (with a few minor exceptions) and that "the interesting question is not *if*, or *how much*, is consumed but *how well*". Any guilt or pride in production or consumption must be transferred to the other.

Production interferes with consumption *(not always, but more often than not)*

Physically, socially and economically, the presence of additional productive capacity and all that it entails makes it more difficult for people to consume well. This can be due to use of land, resulting pollution, or disrupted social relations. For much of production, the benefits of the consumption it allows outweigh the costs, so it is socially worth doing. However, this doesn't alter the fact of interference with consumption.

Consumption is a complex transformative process

As noted before, consumption is a process, not a static fact. Discussions and analysis of consumption that fail to build on this will generally come to wrong conclusions.

Consumption analysis must be science-based to succeed

The success of energy efficiency indicates the power of good science to overturn myths and shed light on topics that previously seemed unknowable. The application of LCA to some consumption processes suggests that science will be applied. The challenge is to ensure that the correct methods and good science are used.

Consumption is inherently linear

For those fond of materials recycling, the fact that consumption obeys different laws is disappointing. Nevertheless, there is no way to map the linear path of the transformation of value as it moves through industrial production, consumption, and on to satisfaction.

Time trends

Truths about consumption have evolved considerably over recent decades and centuries. Figure 3 expresses this schematically: consumptivity or well-being can't currently be quantified this way (any more than utility in conventional economics can be), but the concept is useful. Ever since production began climbing at the beginning of the Industrial Revolution, quantitative gains in production have been tempered by declines in consumptivity. While this effect was small in comparison to rises in production, there was little harm in ignoring it. However, industrialized countries may have reached the point at which consumptivity declines match or exceed production gains. There is a danger of a long period of diminishing well-being. However, attention to consumption could facilitate rising well-being (whether production continues to rise, or prefer-ably falls).

Rising rates of production are likely in the foreseeable future, particularly in developing countries. For developing countries to avoid the high production levels of industrialized countries, their best option is to aim for high levels of consumptivity. The fact of past falling consumptivity need not be of concern so long as the rate is low enough. In industrialized countries, with our consumptivity as low as it is, we can reasonably expect to be able to raise it considerably (if we try).

Serial transformations

Figure 4 shows the successive transformative processes that industrial materials pass through. Materials are extracted from the earth and concentrated and manipulated to make bulk commodities. When transformed into products, materials may not be entirely lost, but their value as materials diminishes greatly. For example, electronic circuits contain many high-value elements, such as gold, that are significantly reduced in material value through dispersion among the other elements in the circuits, even as product value is gained. Both processes are part of production.

Consumption enters as people begin using products. Over time, with use and without, products lose economic value and use value (for the consumer). During consumption, services are rendered to the consumer, typically over a particular finite time period. The services themselves are not actually indicative of well-being, but are the inputs to a final transformative process of *satisfaction*. Consumption efficiency does not address satisfaction; like production before it, it presumes that "satisfaction efficiency" (if this is even the right concept) is constant. Satisfaction needs to be addressed by others before we will have a complete set of methods.

Outlook

There are a number of important outstanding questions relating to consumption. These include:

- Which disciplines, government policies (agencies) and other organizations should be at the core of consumption analysis?
- How do we confront contradictions between results of consumption analysis and "conventional wisdom" or prevailing/dominant views?

It seems likely that any near-term success for consumption will involve building on energy efficiency, with attention to "materials end-use efficiency".

Conclusions

A consumption-based perspective does not deny the usefulness of others and should be used in addition to, not instead of, them. It provides an additional way to understand and improve the world, so is essentially optimistic (this is part of the motivation to "celebrate" it). Consumption may be particularly useful for those wanting to reduce environmental damage, as it can help identify significant changes that may not change well-being, but that allow significant reductions in destructive production.

The prospects for consumption analysis are unclear. It calls into question several widely held assumptions, and takes away some (not all) of the moral imperative for production, in particular rising levels of production. It also conflicts with many other social and governmental goals that call for increasing production and increasing the aggregate work (jobs) that needs to be done. There is increasing recognition of the disconnect between rising levels of production and most people's sense of individual and social well-being. Many responses to this look for scapegoats or put blind faith in some system (e.g. religion or the market). Improving consumption may be one of several mechanisms of social transformation that have few losers and a wide array of co-benefits, and so be worthy of further consideration and investment.

A key to understanding the importance of consumption is that it is a *process*, not a static fact. Consumption is usually ignored or denounced, both of which obscure its true nature. If we are to improve consumption, we should *feel good* about it, *pay attention* to it, do it *well*, and have *fun* – "celebrate consumption".

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Spending public money responsibly: the benefits of green purchasing

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Abstract
ICLEI is actively encouraging international information exchange on cleaner production, the inclusion of environmental criteria in public tenders, and innovative examples at the local government level. When local and regional authorities implement green purchasing policies, they provide an example to citizens, businesses (with whom they may be able to organize public-private partnerships and other initiatives) and even national governments.

Résumé
Le Conseil international pour les initiatives locales en environnement encourage activement les échanges internationaux d'informations sur la production plus propre, l'introduction de critères environnementaux dans les marchés publics et les exemples innovants à l'échelon des collectivités locales. Quand elles mettent en œuvre des politiques d'achat "vertes", les collectivités locales et régionales montrent l'exemple aux citoyens, aux entreprises (avec lesquelles elles peuvent instituer des partenariats public-privé et d'autres initiatives) et même aux gouvernements nationaux.

Resumen
El Consejo Internacional ICLEI se consagra a fomentar de forma activa el intercambio de información sobre producción más limpia, la inserción de criterios medioambientales en las licitaciones públicas y a ofrecer ejemplos innovadores en el ámbito de los gobiernos locales. Cuando las autoridades locales aplican políticas respetuosas con el entorno, están dando ejemplo a los ciudadanos, las empresas (con las que, además de otras iniciativas, pueden concertar asociaciones entre el sector público y el privado) e incluso los gobiernos nacionales.

The European EcoProcurement Initiative

All over the world we can see that awareness of sustainable production and consumption is growing. The number of local governments launching sustainable development action plans (generally known as Local Agenda 21's) is increasing all the time. The total number of companies using an environmental management system (EMS) is also increasing.[1]

When local and regional authorities implement sustainable development plans and green purchasing policies, they provide an example for their citizens and staff and are in a position to build private-public partnerships. Green purchasing, a strategy being chosen by a growing number of them, can help to protect the environment, to meet tight budget constraints, and to support the greening of production.

The International Council for Local Environmental Initiatives (ICLEI) is dedicated to serving a world-wide local government movement aimed at making tangible improvements in global environmental conditions through the cumulative effect of their actions. ICLEI operates as an international representative of its member local and regional authorities and associations. It strengthens local environmental expertise and capacity, functioning as an information clearinghouse. ICLEI also furnishes and coordinates technical services, on an international basis, for the development of local environmental policies and programmes. It promotes the local government's role as a necessary innovator and performer with respect to sound environmental policy, and it campaigns for increased environmental policy-making.

To foster and facilitate green purchasing at the local level, ICLEI has launched the EcoProcurement Initiative, which targets all professional purchasers and environmentally relevant decision-makers, public and private. By offering a platform for information exchange, mutual understanding and joint activities, this initiative is intended to provide a clearinghouse on green purchasing at the local level in Europe. The EcoProcurement Initiative, part of ICLEI's Local Agenda 21 campaign, should help cities, towns and counties prove they can "keep their own house in order" while asking other stakeholders in society to participate in joint activities.

The EcoProcurement Initiative includes various elements, from regular events to the provision of a network, participation in research activities (including green purchasing as part of the Local Agenda 21 process) and support for green purchasing practices at the public level.

The main elements of the EcoProcurement initiative are:

- **EcoProcura**[2] **Fora** on economic and ecological municipal procurement. These fora give local authorities a platform for debating the latest findings, discussing the legal framework within the free European market, learning about integrated product policy, etc. They are organized in close partnership with other international bodies, including UNEP, the OECD, the European Sustainable Cities and Towns Campaign, the International Network of Green Planners, and public authorities at the national level. At the first forum, EcoProcura 98, which took place in Hannover, Germany, there were over 150 participants from all over Europe. EcoProcura Europa 99 was held in Bilbao, Spain, in February. One of the main outputs of the Bilbao Forum was the "Steps Towards Green Procurement in European Local Authorities" (or the "Bilbao Steps"). At the most recent EcoProcura, in Copenhagen, Denmark, in June 1999, mainly technical questions (e.g. how to integrate environmental criteria into tenders) were discussed. As many other processes and initiatives have clearly demonstrated, only by providing such a platform for presenting the latest activities and strategies and discussing political priorities are we able to gain momentum in Europe towards more green purchasing strategies and programmes.
- Besides this series of regular events, ICLEI coordinates a group of Municipal Green Purchasers in Europe in the framework of the **European Green Purchasing Network (EGPN)**, a joint initiative with European Partners for the Environment (EPE). This municipal group, which has more than 25 members from 13 European countries, gives active local authorities the chance to encourage and enhance information exchange and co-operation on green purchasing in Europe.
- ICLEI actively participates in an EU LIFE project in Austria to develop a **criteria catalogue for green goods and services**. One purpose of this project is to bring together the instruments and know-how relating to environmentally sound procurement available in scientific and consulting bodies in Austria, and to further develop the instruments using the effects of synergy. The project is intended to provide discussions of criteria and instruments in individual talks and workshops that bring together purchasers from national and state governments, as well as cities or municipalities, in order to include their exper-

iences and adapt these instruments to practical needs. Environmental criteria for tenders will be defined for the following product areas:

- supplies for offices and schools;
- small electric appliances;
- construction materials and equipment;
- furnishings;
- multi-tiered water use system;
- infrastructure for drinking, waste and recirculated water; and
- laundry and cleaning products.

ICLEI's role is to complement this project by adding its expertise on the European situation, compiling Best Practice Case Studies on "green purchasing" in European municipalities that will serve as motivation and model.

Figure 1
Environmentally friendly procurement policies

Environmentally friendly procurement policies address the following areas:

- purchase of products (e.g. office furnishings);
- routine services (e.g. janitorial service for municipal buildings);
- maintenance and management of public property (e.g. green spaces, street lighting);
- construction of new buildings, building restoration and renovation, including the purchase of building materials (e.g. for schools);
- purchase of services (e.g. through contracting);
- organization of municipal events (e.g. local festivals).

What is green purchasing about?

There is a very simple idea behind "green purchasing": every product purchased and every service used has impacts on the environment, through the consumption of certain materials, and of energy and water, as well as the waste created at various stages of its life cycle.

A broad range of procurement contracts can be shaped according to this principle. Governments purchase all types of products, from office equipment to park benches. Projects like creation of green space, road construction and maintenance of public facilities can also be considered part of government purchasing.

Using environmentally friendly procurement policies like those already being applied by many local authorities (Figure 1), product development can be influenced and manufacturers can be pushed towards environmentally friendly and socially responsible use of materials and production methods.

Green purchasing can work only when purchasers look for best value rather than the lowest price. In other words, they need to choose the most economical – which is not always the cheapest – products and services.

Spending public money responsibly: how can we profit from purchasing green products and services?

The thousands of local governments in Europe spend hundreds of billions of euros on products and services every year. They make and implement policies in many areas. The collective environmental impacts of all this activity are enormous. Leading-edge local governments have found that managing these impacts, and using EMS to engineer a shift towards continuous improvement in environmental performance, can produce major benefits. These include increased motivation of members, staff, stakeholders and external partners, and a lower risk of prosecution since problems can be better anticipated before they arise.

Many purchasing officers claim that green purchasing is too expensive. However, it can be shown, using many practical examples, that local authorities who follow green purchasing strategies save money in the short, medium and long term. One such example is the purchase of 120 photocopiers by the city of Graz in Austria. Instead of choosing one of the cheapest tenders, the procurement officer picked the one that best matched the criteria published under the technical requirements in the call for tenders. Among the criteria were low energy consumption and noise, durability, and low dust and ozone emissions. Ten months after the copiers were installed, the costs incurred through buying from a more expensive supplier had already been set off by reduced energy and maintenance costs.

The relevant question for public authorities is how to acquire know-how concerning cleaner production, products that offer the best value for money, integrated product policy, life cycle assessments, eco-labelling, and other areas relating to green purchasing.

Green purchasing activities and their legal framework

Green purchasing has become an important issue internationally. UNEP has led a cleaner production campaign for over ten years, addressing stakeholders from all relevant fields – including national and local governments, NGOs and private businesses. The OECD, which has held a series of Green Goods Conferences, is encouraging its member countries to green their governments.

European and international legislation on public procurement has spurred a lively debate on the compatibility of environmental considerations with the principle of free trade. While the 1992 Maastricht Treaty emphasized the need to combine single market objectives with other European Commission policies, especially those on environmental protection, the public procurement directives of the same and the following year clearly stress the single market over any other policy principle. Environmental restrictions are implicitly admissible where they do not interfere with free trade.

In reaction to the insecurities this caused among public purchasers, the EC is currently working on an official Commission document, to be released later this year, that will clarify the relationship between trade and the environment.

Nevertheless, in almost any procurement regime (including under the World Trade Organization's rules and the European Union's legislation) it is legitimate to include environmental product criteria under the technical specifications that define the most desirable product. While tendering practices may be progressing slowly in the direction suggested by the EU's public procurement directives, awareness of the benefits of green purchasing is also increasing. There is a chance that "greener purchasing may support the need to open markets and favour the drive towards harmonization and transparency" and vice versa.

Public-private partnerships

A green market cannot develop without growing demand for green products and services. This demand will be created by raising awareness of the benefits of green purchasing and sustainable consumption; that is, the potential not only to protect the environment but also to save money and energy, avoid follow-up costs, and reduce risks to

The Dutch government's approach to sustainable purchasing

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In the Policy Document on the Environment and the Economy presented by the Dutch government in mid 1997, 10 million guilders was allocated over a five-year period for an incentive programme to increase the importance of the environment in purchasing and contracting by government bodies. This has been a clear sign to the market that attention should be given to the environment.

The objectives of the Sustainable Purchasing Programme are three-fold:

- to set an example for others;
- to achieve immediate environmental benefits;
- to influence the market by creating/increasing the demand for products that place a smaller burden on the environment, and by stimulating "green" product innovation.

To achieve these objectives, the programme aims to stimulate and facilitate voluntary coordinated sustainable purchasing by the central government (13 ministries), the 12 Dutch provinces, the 572 municipalities, and the 68 water boards in charge of water management. These government bodies are all responsible for their own purchasing; within individual organizations, purchasing is highly decentralized.

Since the early 1980s, influenced by the fact that the government has been expected to set an example, many government bodies have regularly paid attention to "green" purchasing. The introduction of an environmental management system has also caused them to consider purchasing's environmental aspects. Through the introduction of greater coherence and coordination, however, the government bodies' purchasing power will be increased.

The Sustainable Purchasing Programme is based on the following principles:

- Government bodies must be able to participate in the programme on a voluntary basis.
- The programme must be flexible and offer sufficient freedom of choice to the purchasing organization.
- The approach to be taken must follow on from current purchasing practice and result in reducing, rather than increasing, the purchasing staff's workload.
- The programme must be implemented in an efficient and flexible organization.
- To prevent the same work being done twice, use is to be made of available information and expertise. Activities should benefit from existing initiatives.

The programme is aimed at both primary and facilitative purchasing. Primary purchases relate directly to the task of the government body (e.g. provision of public parks, construction and maintenance of sewerage, roads or waterways). Facilitative purchases relate to goods and services that support the performance of this task (e.g. office equipment, printed materials, catering, cleaning).

Approach

Within the framework of the programme, five groups of resources will be developed to assist organizations in their purchasing activities. These resource groups will be tested in pilot projects and expanded based on the results. Cooperation is also sought with parties outside the government where this would be advantageous for all concerned. To assist with all activities and pilot projects, in October 1998 a Sustainable Purchasing Programme office was established. Besides a small number of permanent staff, there are purchasing and communication experts.

Information provision

An electronic database is being set up to help purchasing staff at all phases of the purchasing process. Environmental criteria for products and services play a central role. Sufficient options for purchasing staff will be guaranteed. Not only will they profit from this information, but suppliers will be able to respond better to the desires of their clients. Purchasing staff employed by companies and private organizations will be able to use the database, provided they purchase the same type of products as the government bodies.

Information is being adapted for use in purchasing by a working group of purchasing staff. It is then subjected to a two-stage user test. An environmental expert participates in the working group. Purchasing staff from industry can take part if their interests correspond to those of the government purchasing staff; this applies above all in the case of facilitative purchasing. The information is presented to manufacturers and suppliers for testing. The objective is to make the best information (i.e. reliable independent information that can be used immediately in preparing calls for tenders) available to all (government) purchasing staff.

The working groups make use of all available information, such as recent calls for tenders, environmental labelling systems in the Netherlands and other countries, the requirements of the Dutch Sustainable Building Programme, and publications concerning environmentally friendly purchasing campaigns such as Green in Practice or GRIP (Norway), the Committee for Ecologically Sustainable Procurement (Sweden), EPP (the United States), the EcoBuyer Catalogue (Canada) and the Green Purchasing Network, GPN (Japan).

Guideline on gradual integration of sustainable purchasing

A guideline for organizations wishing to adopt sustainable purchasing gradually is aimed, *inter alia*, at ascertaining their purchasing behaviour and the procedures they follow. These organisations might then introduce sustainable purchasing in a purchasing policy plan and make staff responsible for its implementation.

Monitoring

Monitoring is important in motivating people and organizations in the long term by showing them that their contributions have been worthwhile, and in eliminating seemingly useless activities or subjecting them to thorough analysis. This applies at the level of individual organizations and nationally. Within the programme, attention will continually be directed to the effects of various policy instruments.

Voluntary agreements

Commitment from directors and management is essential if support for sustainable purchasing is to be obtained within an organization. This can be achieved by means of a statement in which individual control organs state that they are prepared to participate in the Sustainable Purchasing Programme. The purpose is to make sustainable purchasing a programme *for* and *by* government bodies. An important positive side effect is that the market receives a clear signal that the environment should be considered when product lines are developed. Further elaboration in this area will be due at the end of the programme's build-up phase, shortly before it is implemented.

Network

Another element of the programme is the development of a network of purchasing officers who wish to contribute to sustainable purchasing in their own companies and are prepared to exchange experience with colleagues. This network can be used for practical testing and further dissemination of the instruments developed (bottom-up approach). Special seminars and a newsletter will assist the network's development and maintenance.

When the programme begins towards the end of 1999, information will be ready for three purchasing segments. At the start, a new information pack will be published about once a month. Working groups are already looking at photocopying paper, printers and copiers, office furniture, vehicles over 3500 kg, catering, and care of vegetation along roads. Later, subjects on the agenda will include writing paper and other printed materials, hot drink vending machines, cleaning, maintenance of lighting, lifts and heating, construction and maintenance of watercourses, and preservation work (i.e. general maintenance of buildings and of infrastructure such as bridges). When choices are made, the criteria are: environmental gains, relevance for purchasing staff, purchase volume, availability of information and expertise. It is expected that information will also be made available via an English-language website in the second half of 2000.

When the programme was being set up, purchasing by government bodies was considered to be of major interest for several reasons: 1) efficiency improvement; 2) developments in rules and regulations; 3) financing and privatization possibilities in the framework of public and private cooperation projects; 4) additional purchasing goals for government bodies, e.g. stimulating innovation and economic development; and, last but not least, 5) logistical changes due to developments in information and communication technology. These latter developments will be followed from within the programme, so that sustainability can play a role.

In an information organization, it is crucial that the information be kept up-to-date. This is particularly true in purchasing segments such as office automation, where developments occur very rapidly. The programme needs to be attractive to users, so that they will be prepared to bear the costs once government financing ends. In this connection, possibilities are being examined for linking the requirements of government bodies with the texts of calls for tenders, information from suppliers, and e-commerce.

The Sustainable Purchasing Programme is aimed at commercial business-to-business purchasing activities. Relevant information is also exchanged with organizations promoting environmentally friendly consumer purchasing behaviour, like the Dutch Milieucentraal foundation.

human health and well-being. Close cooperation and information exchange among private business and consumers helps increase awareness – and consequently increases demand. Consumers have an interest in keeping informed about what is offered on the market, product criteria, quality standards, etc. and suppliers need to understand consumers' needs and interests.

It is obvious that substantial benefits can be gained by both the supply and demand sides through close cooperation. An example of such cooperation, involving input from researchers as well, is the earlier mentioned Austrian EU LIFE project "Check It!". Its purpose is to produce a criteria catalogue of green products and services. The contents of this catalogue will be elaborated in working groups where researchers, private suppliers and professional purchasers (private and public) work closely together to make use of a large pool of information and experience and to explore the needs, interests and possibilities of all concerned.

The corporate sector could become the public sector's best partner in developing greener management and purchasing practices. Some of the most advanced companies already have a long-standing record of environmental care. Their experiences with environmental and supply chain management are now being evaluated by public administrators. In particular, forward-looking companies have demonstrated that environmentally aware production and product criteria may be coupled with sound business sense.

Existing networking initiatives

How do we bring sustainable production and consumption about? Businesses seek certification for their environmental management activities and develop models of product stewardship; different tiers of government use their purchasing power as a way to stimulate life cycle analysis and innovative markets; and consumer and other NGOs work with retailers to promote the availability of greener products. However, so far most of these activities stand on their own.

European Municipal Green Purchasers' Network

The **European Green Purchasing Network** (EGPN) was launched in December 1997 to facilitate a green purchasing initiative by the various stakeholders involved in the public and private sectors and governmental and non-governmental organizations. It followed the example set by the Japanese Green Purchasing Network, formed in 1996 to promote the supply and purchase of green products.

The EGPN aims to support purchasers in organizing and implementing green purchasing, and to facilitate professional information exchange on green purchasing across boundaries and sectors. It is also designed to make company managers aware of the importance of green purchasing. Ideally, any green purchasing policy is embedded in a larger environmental policy framework. An important management aspect of green purchasing concerns the need to anticipate future events that could affect supply and purchasing, as well production (e.g. new scientific developments, changes in public perception of environmental issues, or emerging government policies and regulations).

Paralleling trends in the private sector, many local authorities have launched purchasing initiatives in the past years. However, their eco-procurement know-how is not easily available to other interested parties. Coordination of local initiatives could just as well take place at a supra-national level, ignoring national boundaries. In a way, this approach appears to be more promising, considering that trade and industry are not confined by national boundaries either. This is why ICLEI has launched a network for purchasers in local authorities, which forms part of the EGPN.

The **European Municipal Green Purchasers' Network** (EMGPN), created when the European Green Purchasing Network (EGPN) was launched at the end of 1997, has 25 participants from all over Europe – Albania to Sweden – and is steadily gaining new ones. Its aims are:

- to foster exchange of eco-procurement experience among municipal purchasers;
- to help local authorities integrate green purchasing into their Local Agenda 21;
- to identify green purchasing instruments for use at the local level;
- to assist with the inclusion of green purchasing tools in product selection and the awarding of contracts;
- to stimulate discussion of legal considerations relating to inclusion of environmental criteria under technical specifications in calls for tender.

Why should public administrations implement green purchasing strategies?

Mainly across Northern and Western Europe, a number of local governments have initiated the use of green purchasing policies, purchasing check-lists and standardized forms for bidders. As the OECD Environment Directorate reports, "greening of government and purchasing initiatives are mushrooming" at the local level. This phenomenon has long been anticipated by environmentalists and policy-makers with respect to public purchasing.

Public administrations are focal points of public life and therefore attract particular attention. There are several reasons why the public sector is often expected to be at the forefront of green consumption:

- **Leading by example:** Cities and towns, as well as national administrations, can influence industry, trade, small businesses and end-users to use environmentally friendly products and processes. In view of their position in public and commercial life, they would lose credibility by not displaying environmentally conscious behaviour.
- **Using the power of the market:** Increasing demand for environmentally friendly goods and services gives a push in this direction to trans-regional markets. This effect can be reinforced with incentives or restrictions.
- **Driving innovation:** Greater demand for environmentally friendly products and services provides incentives for innovation. Demonstrating the use of such products by local governments adds to this effect.
- **Spending public money responsibly:** Green purchasing can yield unexpected benefits to purchasers and their administrations, helping them to meet budget constraints as well as to protect the environment.

Local governments, public utilities and state-owned businesses are therefore called upon to take a leadership position through using instruments that shape future demand for products and services in a way that systematically strengthens progress towards sustainable development goals.

Furthermore, local and national administrations can serve each other as models. Several central governments have already demonstrated the political will to use green purchasing as a policy tool. Some governments or ministries (e.g. in Canada, the Netherlands and Sweden), as well as national procurement agencies (e.g. the Danish *Indkøbs*), have been procuring environment-consciously for many years. Numerous local authorities have been doing likewise.

As stated earlier, local governments can be a a model not only for their citizens and local business, but also for regional and national governments. The city of Curitiba, Brazil, is known as the "ecological capital and laboratory on biofuels".[3] As Governor Cassio Taniguchi states, "the use of bio-diesel and alcohol-diesel can serve as a model for the Brazilian government to meet the targets of the Kyoto Protocol." The city's investment was considerable; it spent more than R$ 100 million, supported by international agencies such as the Latin American Banco Interamericano de Desenvolvimento (BID) and the national Banco Nacional de Desenvolvimento Econômico e Social (BNDES). The result is not only cleaner air, but also a more sustainable energy consumption model and wider use of the local agricultural products, soya bean and sugar cane. In March 1999, approximately 10% of Curitiba's municipal fleet had bio-fuel engines. Air monitoring results showed a 50% reduction of solid particles and a 30% reduction of polluting emissions.

Although the tasks and conditions of most local authorities differ greatly from those of national governments, some aspects of their working methods and procedures put them in a comparable situation – one which differs from that of private industries . Therefore, they can learn from each other. Sustainable development and green purchasing policies need to go hand in hand. In implementing these policies, both local and national governments can choose between regulatory and economic means, as green purchasing is only one of a number of important instruments. Whichever means are used, they are obliged to spend taxpayers' money responsibly and efficiently. Moreover, both local and national governments are addressed and bound by international environmental agreements such as Agenda 21, endorsed by the UN Conference on Environment and Development in 1992.

Conclusions

As Jacqueline Aloisi de Larderel, Director of the UNEP Division of Technology, Industry and Economics, stated in Bilbao: "Cleaner production efforts, reducing pollution at source, have been implemented in many industry sectors, demonstrating that reducing the use of raw materials, waste prevention and a reduction in polluting emissions can bring about remarkable economic benefits."[4] As shown in the Curitiba example, there is considerable potential for mutual benefits if local authorities and national governments work together at the national and international level towards the common end of sustainable development through green purchasing. There are various possibilities for undertaking common activities, through joint purchasing cooperatives or on the political level by creating appropriate legal frameworks, etc. Implementing green purchasing strategies presents a challenge and an opportunity to create win-win situations. By "buying green", public authorities save money, help protect the environment and fulfil their obligations under Agenda 21.

Notes

1. The number of additional companies initiating EMS each year has recently been falling, despite the proven advantages for a company's budget.

2. Council Directives 92/50 on Service Contracts, 93/36 on Public Supplies and 93/37 on Public Works.

3. http://www.curitiba.pr.gov.br/acncia/20jul98seg/materia01.html (authors' translation).

4. Keynote speech, "Purchaser's Power: Cleaner Production for Healthier Working and Living Conditions through Conscious Procurement," EcoProcura Europa Bilbao, 24-26 February 1999.

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Towards sustainable brands: a step-by-step guide to securing a share of the future

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Abstract
Consumer marketing companies have a particular interest in acting responsibly with regard to consumers. Not only is this simply the right thing to do, but companies' relationships with their customers are increasingly based on trust. There is great potential competitive advantage for companies that understand the importance of sustainability and social issues.

Résumé
Les entreprises de marketing de produits de grande consommation ont intérêt à agir de manière responsable à l'égard des consommateurs. Pas seulement parce c'est un comportement normal, mais aussi parce que les relations avec les clients sont de plus en plus basées sur la confiance. Les entreprises qui comprennent l'importance de la viabilité écologique et des questions sociales ont une bonne chance de l'emporter sur leurs concurrents.

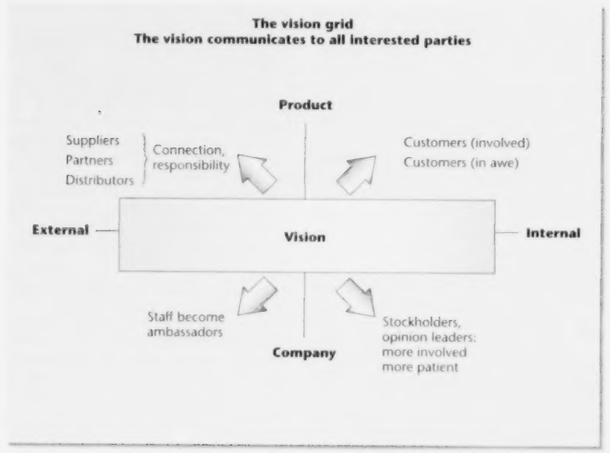
Resumen
A las empresas de marketing para el consumidor les conviene ser particularmente responsables en lo que concierne al consumidor. No sólo porque eso es lo correcto, sino también porque las relaciones entre la empresa y el cliente se basan cada vez más en la confianza. Las empresas que comprenden la importancia de la sostenibilidad y del aspecto social son potencialmente más competitivas que las demás.

Very few consumer marketing companies have embraced the concept of sustainability as part of their attempt to gain market advantage. Body Shop is often mentioned, but who else springs naturally to mind? Others have embraced the concept of social responsibility (e.g. Levi's). However, this concept has not been integrated as a central issue into their business strategy. Yet making these concepts common in brand marketing is central to the global challenge of creating a more sustainable corporate model.

Many chief executives do ensure that their companies debate and engage in socially responsible programmes or review their manufacturing for its impact on sustainability. However, this interest rarely extends down to the real level of marketing and the customer. It is an add-on element for the company, not part of its true beliefs. Actual progress – adoption of more sustainable practices – is slow. For many, an environmental audit is sufficient; others question whether even this is necessary. Does it really interest shareholders?

This is going to have to change if we are to achieve sustainable marketing and consumption of brands. Without a change in attitude at the heart of companies, a shift in marketing and consumer relationships is impossible. What will it take to achieve such a change? An emotional or moral appeal is likely to make much less headway than a good business argument.

Ray Anderson is the CEO of Interface, a carpet tile company. He is also co-chairman of President Clinton's Council for Sustainable Development. He runs his carpet company with a missionary zeal for true sustainability. But he realizes that, however missionary he is in his personal quest, not all business leaders are going to share his zeal. Therefore, they are unlikely to embrace sustainability of business so fast. In a recent article in *Fortune* magazine, he admitted: "Business will get on board, not out of altruism, but out of self interest. To expect anything else is naive."



The pressure on companies to perform, to grow at all costs, is intense irrespective of what markets they are in – highly mature, or in the early stages of development. The driving force is more than individual corporate greed. It is a fight for survival, not only versus the competition but also in the eyes of the increasingly involved and demanding shareholders that do not tolerate "under-performing" companies.

After all, any share of the future at all is by no means guaranteed: 60% of today's Fortune 500 companies didn't exist even 30 years ago. And many great brands have simply been swallowed by newer, hungrier entities. If you aren't constantly growing in line with "expectations", however big you are, you cannot guarantee survival.

Dependence on growth has become deeply embedded in Western society as the state of the economy preoccupies the world. The public measure of the health of, and confidence in, any economy is now taken as consumer spending. Alarm bells start to ring, and there are solemn pronouncements of gloom on the news, the moment consumers restrain their consumption. A "growth economy" is synonymous with well-being, and a stable one is labelled "stagnant" and on its way to recession – for which the French word is *crise*, or crisis.

Technology has come to the rescue of growth in the developed Western markets, which were in the doldrums in the early 1990s. The digital revolution is transforming production processes, telescoping time, and enabling companies to offer better, faster cheaper goods and services and manage business across boundaries with increasing efficiency.

But technology is also heralding more radical changes, which make it harder to play by the old rules. A number of external forces threaten the status quo. These are generally turbulent. Very sudden, unanticipated, they can shake and redefine very quickly an entire market architecture. Companies trying to "build brands" or build stable businesses are finding themselves vulnerable. They are equipped to build brands, but not in a world of change. And all their attention is taken up in trying to handle the emergencies that come their way.

Forces of turbulence

Convergence of industries is affecting many more markets than cable, computers and telecommunications. Digital technology allows e-commerce to transcend traditional retailing and change the power structure within many industries. In music, for example, what hold will Sony or Virgin have over artists and record sales when you can programme your evening's music track by track and download it directly from your computer? And as the technology improves, could it pose a huge threat to business travel? Once you can see the person you are talking to on the other end of the phone, what need to take the plane to achieve the human contact desired?

External predators prowling around markets can arrive most unexpectedly. Wal-Mart's arrival in the United Kingdom has come as a considerable shock, unanticipated by the two major players, Sainsbury and Tesco, and therefore not taken into account within their marketing or brand strategies. They have been running a two-horse race, safe in the knowledge that the retail park cannot be expanded in the UK. Little did they expect Wal-Mart to buy a large chunk of it (Asda), let alone negotiate for a take-over of other currently non-supermarket retailing sites and gain the right to transform them. The retailers offering banking and other financial services are another example of a new wave of competition coming in from left field.

Economic swings make it difficult for quoted companies to maintain market confidence. The bubble bursting in Japan in the mid 1990s, coupled with the return of Hong Kong to China, undermined many luxury brands on a world-wide basis, from cognacs like Remy Martin or Martell to prestigious sports watches like Tag Heuer. Terrible weather in the Far East over the last twelve months has caused even more economic havoc. And who knows when the US economy will cool? What we do know is that when – or if – it does, this will affect markets, companies and brands way beyond its borders.

These three categories, together with trends in taste, style and fashion, are the "fast changes" of brand planning and the source of much anxiety. Misreading any one of them can mean a loss of market share. But apart from merger or take-over, it is usually possible to recover. There is *another* set of changes, however, which become clear more slowly. They are rarely part of normal brand planning. These are the "slow changes" of social attitudes and shifts in fundamental values. They may be harder to read, but they are often more fundamental in impact. When they surface, they can have the most explosive force.

These changes find their expression in **politicized consumption.** Sustainability, social responsibility, corporate transparency – the issues that now provoke consumers more than any others – may have been slow to come to the fore as major brand issues, but they are certainly here to stay. Consumers are discovering that they can have greater influence through direct action than through their elected representatives. Easy, cheap access to information and increasing realization of the economic and political power of consumption (as opposed to voting) have encouraged much more militant action against companies that people don't approve of. And this can be a highly effective check on these companies' behaviour.

It took a long time for sexual or racial equality to be properly addressed by companies and society. Even in 1996, Texaco was still caught out on racial issues. This weakened its corporate integrity, and Texaco was one of the first major oil companies to go in the recent wave of consolidation.

A company consumers cannot trust has no future

Product differentiation is no protection. While technological development and the speed of information help companies improve performance, no sooner have they achieved a breakthrough in product or service than it is available from somebody else. And such is the choice placed before consumers that they are now choosing *more* than just that product or service. They are choosing the company behind it.

Examples of companies that have been complacent and slow to accept responsibility, or have tried to hide the truth, are plentiful. These companies are still licking their wounds. Shell lost huge credibility over Brent Spar and Nigeria, which has heightened criticism of other more fundamental commercial issues. Coca-Cola recently got into trouble in Belgium, when bad carbon dioxide was apparently used in production. By failing to respond appropriately, they antagonized governments and consumers, who proved very slow to forgive. Nike took the soul out of their brand due to the bad PR. *continued page 32*

The UNEP Initiative on Advertising and Sustainable Consumption

Background

As stated by Secretary General Kofi Annan at the 1999 Davos World Economic Forum, there should be a closer and mutually supportive partnership between the UN and the private sector to defend humanitarian values, working together in a *"global compact of shared values and principles in three key areas: human rights, labour standards and environmental practice."*

UNEP's Initiative on Advertising originated through strong political will: governments at the Commission on Sustainable Development (CSD) Rio+5 Earth Summit recommended encouraging "business, the media, advertising and marketing sectors to help shape sustainable consumption patterns." UNEP therefore considered it timely to set up an initiative on Advertising and Sustainable Consumption.

Why involve the advertising sector in a sustainable consumption initiative?

- Advertisers play a key role in producing and promoting products, services and campaigns to foster sustainable consumption. By developing cleaner products, they meet a growing demand from consumers who increasingly want to be informed about the environmental and/or social impacts of the products they purchase.
- Advertising agencies represent a link between producers and consumers. They have an influence on the communication strategies of their clients, and their communication skills and creative talents represent an important asset to help shifting consumption patterns.
- The media play a major role in the development of broadcasts and articles aimed at informing the public on sustainability issues. They can also provide free or low-cost space for campaigns of general interest.

We need to accept our own responsibility, not hide behind our clients and shun our moral ethics as people.
Taina Marjanen, Brand Sellers DDB RIO Finland, UNEP's First International Expert Meeting, Paris, January 1999

Some time ago, industry was telling people and consumers, trust me. After a number of accidents, we soon saw that consumers were starting to say, tell me. Now consumers are asking, explain to me, and involve me.
Jacqueline Aloisi de Larderel, Director, UNEP's Division of Technology, Industry and Economics, 4th International Business Forum, Berlin, October 1999

I like the spirit of the meeting because it is about what we can do instead of talking about what should be banned.
Stig Carlson, Director General, European Association of Advertising Agencies, UNEP's First International Expert Meeting, Paris, January 1999

Purpose of the UNEP initiative

The UNEP Initiative on Advertising aims to:
- raise awareness of the issue of sustainable consumption among the advertising sector;
- help build a network within the sector, so as to foster its commitment to sustainable consumption issues;
- inspire and enable the sector to take a voluntary initiative in order to promote sustainable consumption.

How could the advertising sector benefit from joining the UNEP initiative?

- By offering greener products and services to the market, companies may enhance brand valuation, spur innovation and increase market share.
- New business opportunities could appear with the development of messages related to sustainable consumption. An increasing number of companies, NGOs and governments communicate on environmental or social issues. This factor should definitely be considered by advertising agencies to avoid missing future expanding market.
- The entire sector could trigger financial savings from implementing eco-efficient policies, and could then benefit from increased corporate credibility.

Some key activities

UNEP's First International Expert Meeting on Advertising and Sustainable Consumption

The UNEP Initiative was further supported by recommendations from UNEP's First International Expert Meeting, held in Paris on 21–22 January 1999.

This meeting was a first step in fostering mutual understanding and cooperation on advertising and sustainable consumption among involved stakeholders. Participants were keen to suggest a number of actions and commitments. Discussions began during the Expert Meeting displayed the advertising sector's willingness to work with UNEP on preparing an action plan to promote sustainable consumption.

Follow-up events

Since its First Expert Meeting, UNEP has been supporting various activities including those of COM-MAM (Communication for the Environment), a Brazilian NGO that cooperates with the Association of Advertising Agencies in Brazil to spread information about sustainable consumption. COM-MAM has also produced a video, which was presented at the 4th International Business Forum (Berlin, October 1999). This event, co-organized by the Carl Duisberg Gesellschaft and UNEP, presented a special session on "social communications". In November, UNEP also introduced its initiative on the opening day of "AdAsia '99", Asia's largest advertising congress.

Events and publications in 2000

Conferences

In 2000, UNEP will organize a Second Expert Meeting in Paris to develop a communication strategy on sustainable consumption with the advertising industry. It will also participate in high-level conferences organized by the sector in various parts of the world (including Hannover for Expo 2000, Montreal, Johannesburg and London).

Publications

- *Advertising for a Better World* will highlight interesting examples of communication strategies and advertisements promoting the concept of sustainability.
- The *Green Housekeeping Manual*, targeted at advertising agencies, will offer practical guidelines to help agencies minimize in-house environmental impacts, which leads to tangible economic benefits.
- The *Communication Guide for Governments* will provide governments with guidelines on how to communicate on sustainable consumption through case studies featuring successful campaigns with an environmental or a social content.

Our partners

In the framework of the Advertising Initiative, UNEP notably benefits from the active support of a number of individual companies and organizations, including:
- European Association of Advertising Agencies (EAAA);
- World Business Council for Sustainable Development (WBCSD);
- Comunicaçao para o meio ambiente (COM-MAM);
- Carl Duisberg Gesellschaft (CDG, Germany).

UNEP intends to bring in additional representatives of this sector from all parts of the world. Advertisers, advertising agencies, the media and relevant associations are therefore invited to provide their experience and support, to exchange information, and to cooperate to promote sustainable consumption.

For further information, please contact: Mr. Bas de Leeuw, UN Environment Programme, Division of Technology, Industry and Economics (UNEP DTIE), Production and Consumption Unit, Tour Mirabeau, 39-43 quai André Citroën, 75739 Paris Cedex 15, France; Tel. + 33 (1) 44 37 14 50; Fax: + 33 (1) 44 37 14 74; E-mail: unep.tie@unep.fr; http://www.uneptie.org/outreach/home.html.

over low pay in Viet Nam. Those who wish to sustain their brands have to clean up their act in every sense.

Politicized consumption as a force, however, can be as much a carrot as a stick: matching consumers' desires and expectations at the corporate responsibility level can give companies a huge boost in business.

Public reaction to GMOs has spurred food manufacturers and retailers in the UK to offer and promote organic products. Companies like Doves Farm have suddenly catapulted to fame, but almost immediately supermarkets have developed their own label competitors. There is now a vibrant organic market throughout Europe, such that it is impacting the decision of Brazilian soya producers on switching to GMO seeds. The sustainable nature of an industry is being reshaped positively.

Securing a share of the future

To manage brands in this climate requires a different set of skills and intelligence, and a very different process. To have a share of the future, companies and their brands will need to anticipate and be agile in their reactions, to have elasticity designed into their connection with their customers, and to have integrity and a sense of direction. The most successful will be those with a point of view, transmitting values and identifying principles to live by, and those with the confidence to guide people through the turbulence and storms ahead. Through these means they will establish a relationship of trust with their customers and all other stakeholders.

Peter Schwartz, President of GBN, has written: "A company's goal has to be in the end not discovery of a model of social responsibility but development of a process that will create its own living understanding of its place in the wider world. This goal means asking hard questions, and thinking even harder about the answers – constantly. Companies that are rule followers, in a world in which the rules are changing, are the ones most at risk." All companies have to take very seriously the slow, deep changes of social attitude and build their perspectives on this into their corporate and brand thinking.

Trust comes from a deep belief in the values and principles at the heart of a business

It is not so much on what a brand or company offers and says, but on how it behaves that it will be judged. It's no longer about what they say, it's about what they do.

So what do you have to do?

The following is a step-by-step guide to getting into shape. In contemplating these steps, it may be helpful as an approach to remember two or three basic rules:

- include but don't delegate – it's too important;
- it's better to get going and get somewhere, and then review, than to sink in an attempt at perfection – you can always revise and improve; and
- rapid learning from experience throughout the company can provide both focus and action faster and more cheaply than any number of external consultants – often the simplest observations are the most revealing and the most refreshing.

Steps towards securing a share of the future

1. **Understand the true internal brand of a company.** This requires full participation of all the senior management, and involves not only seeing and understanding what and who the company is, but what it wants as a share of the future. A company with a vision is infinitely more robust that one without. We use the Vision Grid (**Figure 1**) as our prompt in such conversations with our clients; once you fill it in, you have a much clearer focus and direction.

2. **Set up a process to identify and articulate the company's principles and values, and to ensure that all employees truly believe in them.** To convince consumers that corporate behaviour is real, it has to reflect real values and principles within the company from the top down. These cannot be acted out by staff in their day-to-day work. (Try flying with an airline that promises "friendly" or "favourite" service when there are labour disputes.)

NB: The most basic set of principles known in the Western Christian world is the Ten Commandments. As a set of principles they mostly tell you what not to do rather than what to do, which leaves you empowered to make your own judgments and adapt to specific circumstances, all the while having the comfort of some basic guidelines. So a set of principles for a company can sometimes be most easily defined in terms of what it won't do.

3. **Monitor not only the fast changes in the market – fashion, economic, competitive shifts, technology – but also the slow changes of social attitude.** Once such changes are anticipated, R&D policies and brand strategies can be direction-positive for the future. How geared is your company for an average life expectancy of 95 years in the Western world with the attached shift in values?

4. **Shift the focus of measurement from shareholders to customers and staff.** In a world where service differentiation is more important than product differentiation, making staff and customers happy is the way to keep shareholders happy. Richard Branson once commented that he wasted his time talking to City analysts. It was more important to spend his time with his front line staff, because if they were happy his customers would be happy and thus his shareholders would be happy – in that order. It has been proven in many studies that customer value is directly related to staff satisfaction.

Most companies today use sales as their primary measure: i.e. transactions in monetary value terms. What you will need to measure in future is the number of customer relationships and the distribution curve of these relationship values. This will be the measure which reflects trust in the company. The brand is only the means of creating this relationship with consumers, and this is what should be nurtured.

Grande distribution et consommation

Jeanne Bloch*, consultante, Sept ou 8, 12, rue Saint Sauveur, 75002 Paris, France

La grande distribution a t-elle réellement la volonté d'influencer les modes de consommation de ses clients dans une perspective de développement durable ? Ou n'agit-elle aujourd'hui que sous la pression de l'opinion pour endosser le rôle « d'éducateur » vis à vis d'un « consommateur citoyen », rôle qui à priori outrepasse largement l'exercice de son métier ?

« En tant qu'intermédiaire entre l'industrie et les consommateurs, le distributeur a un rôle d'acteur » précisait Monsieur Luc Vandevelde, Directeur Général du groupe français Promodès, lors de l'assemblée générale du groupe le 19 mai 1999.

C'est parce que les consommateurs ont bien intégré le rôle de la grande distribution qu'ils sont de plus en plus nombreux à la solliciter sur les questions sociales, d'éthique ou environnementales.

Face à l'émiettement des centres de responsabilité entre les différents ministères (agriculture, consommation, santé, environnement), d'une part, entre les gouvernements nationaux et la commission européenne, d'autre part, les distributeurs se trouvent obligés de prendre la parole sur ces sujets car il n'y a pas d'autres communicateurs crédibles.

« Les distributeurs prennent position car ils ont peur d'être remis en cause. Pourquoi prendre le risque ? » souligne le Directeur de l'agence de publicité française Devarrieux Villaret.

En conséquence, si aujourd'hui à travers l'Europe, les entreprises de la grande distribution s'engagent, avec plus ou moins d'énergie, dans des domaines plus ou moins étendus, au profit d'une consommation durable, elles le font, non à la suite d'une prise de conscience « extraordinaire » mais parce que les consommateurs, citoyens de plus en plus responsables et éduqués, les y poussent.

En dehors du champ consommateurs-distributeurs, la législation environnementale européenne mise en place dans les années 1980-1990 a également participé à la prise de conscience des entreprises.

Le système de gestion des déchets d'emballage créé suite à la directive européenne de 1993 a obligé les producteurs à assumer une partie des coûts liés au recyclage des emballages qu'ils mettent sur le marché. En Allemagne, par exemple, l'agence DSD a développé depuis plusieurs années un partenariat avec les acteurs majeurs de la distribution afin de permettre aux consommateurs de trier leurs emballages immédiatement dès la sortie des caisses. En France, Monoprix teste également ce type de solution dans certains de ses magasins, en collaboration avec les collectivités locales.

Comment les organisations de consommateurs ont-elles tenté d'influencer les distributeurs en Europe ?

De nombreuses campagnes visant la distribution sont régulièrement organisées par les organisations de consommateurs, que ce soit l'Alternative Consumers Association aux Pays-Bas, Greenpeace, Consumers International au Royaume-Uni ou le Collectif de l'éthique sur l'étiquette en France. Toutes ont eu un véritable impact sur la politique des distributeurs qu'elles visaient.

Quand ce ne sont pas les organisations de consommateurs qui se mobilisent, l'opinion publique relayée par les médias constitue un véritable pouvoir de pression.

En France, par exemple, le Collectif de l'éthique sur l'étiquette regroupant une cinquantaine d'organisations de consommateurs, syndicats et organisations non gouvernementales, mène depuis plusieurs années des campagnes de mobilisation avec pour cible la grande distribution. Diffusion de cartes postales adressées aux distributeurs, campagnes de communication,ont réellement participé à la prise de conscience des enseignes Auchan, Carrefour ou Monoprix qui ont toutes envisagé l'adoption d'un code de conduite. Celui-ci concerne d'abord le respect du droit du travail chez les fournisseurs de ces enseignes.

En Hollande, il y a quelques années Greenpeace a choisi de s'adresser aux supermarchés et aux distributeurs de jouets pour arrêter la vente de jouets à base de PVC. Les résultats ont été immédiats : en quelques mois les ventes ont été interrompues.

La campagne sur les produits « bio » menée par Greenpeace-Hollande vise à pousser les supermarchés à référencer de plus en plus de produits « bio » afin d'offrir aux consommateurs un véritable choix entre produits « bio » et produits « courants ». Dans les deux cas, la mobilisation des bénévoles de l'association dans les magasins, la sensibilisation par des mailings des directeurs de sites d'une part et les informations fournies aux consommateurs (brochures) d'autre part, associées à la convocation des journalistes ont permis d'obtenir des résultats tangibles.

L'Alternative Consumers Association a initié le combat du grand public contre les organismes génétiquement modifiés en distribuant en 1997 des cartes postales à l'entrée des supermarchés néerlandais.

Rares sont les entreprises de distribution qui d'elles-mêmes, par conviction ou vision, ont choisi de participer à l'élaboration d'un mode de consommation durable. Rares aussi sont celles qui ont décidé d'entamer le dialogue avec les consommateurs sur les questions d'environnement écologique et social. La plupart d'entre elles ont suivi le courant en acceptant de faire plus ou moins évoluer leurs pratiques suite aux exigences des consommateurs.

Certaines d'entre elles, telles les coopératives, sont, pour des raisons tenant à leur histoire, plus engagées dans des actions liées à la consommation durable : Migros en Suisse, Coop en Italie, Froski en Espagne, NKL en Norvège ou KF en Suède, par exemple.

Leur démarche se distingue de celle des distributeurs traditionnels car les coopératives sont des producteurs directement en liaison avec les consommateurs, par opposition au rôle d'intermédiaire que joue la distribution classique.

En s'organisant en coopératives, les producteurs entretiennent :

- un modèle social égalitaire appliqué à eux-mêmes,
- un lien direct avec le consommateur et donc une relation « véritable »,
- le souci de partager avec le consommateur les bénéfices de cette politique sociale.

Ce souci de « partage » a permis aux coopératives de développer des relations plus profondes avec leurs clients. Contrairement à la distribution classique qui agit en réponse aux attentes des consommateurs, la coopérative est plutôt engagée dans une démarche proactive. Cette force lui donne l'opportunité de promouvoir la consommation durable auprès de ses clients non seulement en les informant mais en les « éduquant ».

Migro en Suisse ou Coop Lombardia en Italie, par exemple, ont mis en place de réels programmes d'éducation dans les écoles mais également sur leur propre « terrain ». Les clients viennent dans leurs magasins pour apprendre la protection de l'environnement, le respect des règles sociales ou les règles alimentaires !

L'« éducation » est sûrement la façon la plus avancée de développer chez le grand public des habitudes de consommation plus respectueuses de l'environnement social et écologique. Les coopératives sont sans doute suffisamment exemplaires pour pouvoir le faire.

L'information des consommateurs à propos de la consommation durable représente une approche moins engagée que l'« éducation ».

La distribution classique, par différentes actions, essaie plutôt de répondre aux exigences d'information de ses clients.

Les grands distributeurs français, en étudiant sérieusement la question du label social sur les vêtements et chaussures fabriqués pour leurs magasins, tentent de répondre aux campagnes menées par les organisations non gouvernementales regroupées au sein du Collectif de l'éthique sur l'étiquette.

Certains produits labellisés « verts » ou « équitables », comme les produits Max Havelaar (café, thé, chocolat, jus d'orange, bananes,), sont présents dans les grandes surfaces européennes depuis quelques années. Cependant, ils ne font pas toujours véritablement l'objet d'une politique de vente. Leur présence dans les rayons permet d'informer les consommateurs de la bonne volonté de l'enseigne, de son souci de répondre à leurs attentes. Elle contribue à construire l'image de l'entreprise. Mais le manque de moyens (prix, promotions) nécessaires aux opérations de vente de ces produits met en lumière une vérité : ces produits considérés comme différents servent d'abord à donner bonne conscience à l'enseigne.

Malgré le souhait et la pression des organisations non gouvernementales sur les distributeurs pour obtenir sur les étalages une place plus importante pour les produits « verts, bio ou équitables », ceux-ci résistent au nom de la faible demande des consommateurs.

Cependant, les distributeurs sont malgré tout extrêmement sensibles aux opinions et attitudes de leurs clients. À propos des organismes génétiquement modifiés (OGM), les inquiétudes exprimées par l'opinion publique dans de nombreux pays européens ont poussé les supermarchés à changer de position. En Angleterre, Marks & Spencer a choisi d'éliminer tous les ingrédients OGM de ses rayons pour répondre au souci des consommateurs tout en continuant à défendre les OGM. En France, les Centres Leclerc ont d'abord soutenu les OGM pour ensuite se proclamer porte-parole de leurs clients sur ces questions.

Cette sensibilité, voire cette « fragilité » de la distribution face à l'opinion publique peut nous faire croire que le dialogue entamé entre ces entreprises et leurs clients ou consommateurs a encore de beaux jours devant lui.

Aujourd'hui les consommateurs sont prêts à payer plus pour des produits garantis sans travail des enfants par exemple, donc à fortiori, ils sont prêts à se mobiliser[1]. Cette prise de conscience associée à l'importante réceptivité des distributeurs confirme que les enjeux de la consommation durable vont effectivement se jouer avant tout entre ces deux partenaires. Et la communication y jouera un rôle non négligeable.

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5. **Seek interaction and feedback**. Interactive communication draws customers deeper inside companies. The more open companies are, the deeper the possible relationship. This will also be true for the increasingly important business practice of partnering. All companies in any corporate ecosystem – suppliers, retailers, joint ventures, co-promoters – will have to share a value system.

6. **For this to work, transparency must be the norm.**

NB: You cannot be, nor do you need to be, perfect all the time in everything. But you must have genuine belief in what you are doing.

7. **Develop a different set of measures that reinforce transparency, social responsibility and sustainability**. Make sure there are monitoring systems in place that can withstand public scrutiny. A triple bottom line is only meaningful if it is embraced throughout a company. One measure may be to track the level of employees' belief in the stated values of the company. Another would be to invite feedback from NGOs (you risk getting it anyway, but not necessarily constructively or quietly unless it's invited in good faith).

8. **Develop brand strategy as a mirror of company strategy**. What is this company about, what does it stand for and how does it behave? Every action and statement of every employee is the brand. This approach to brand development requires a significant shift in corporate practice.

9. **Extend communication strategy to embrace actions and behaviour as well as brand statements**. Overt and deliberate communication from the brand to the customer is just one source of information available to the consumer today. And it will only be respected if it is coherent and consistent with the other sources.

Conclusions

Where does this leave advertising? It is only one element in the communications mix, and not necessarily the most credible unless the rest of the house is in order.

Securing a share of the future for advertising agencies also requires a shift in their role and attitudes. At present, agencies act as advocates for their clients. Like lawyers, they do not judge but merely seek the most convincing arguments. However, for the sake of their clients as much as for themselves, they have to develop their own principles. How can they advise clients and build communications, which try to transmit a sense of integrity for brands, if they are not able and prepared to make judgments themselves?

Advertising agencies, like any other companies, need to go through the steps outlined above and define for themselves their part in the future. While the obvious untruths are already banished from advertising in most countries by voluntary agreement or legislation, agencies need to take responsibility for the relationships with consumers that they help to build – responsibility not only to their clients, but also to the consumers themselves. Principles may cost in the short term (client business which does not wish to go through scrutiny as to its integrity will have to be refused), but can only bring gain in the longer term as the agency gains a reputation as a messenger to be trusted, and ultimately as a source of endorsement for the integrity of the brands they advertise.

If agencies do not confront these issues, they are destined to be victims of the Internet sooner than most. If advertising continues to lose credibility and weight with consumers, and thus loses its value to clients, the medium can easily and effectively be bypassed and replaced by other forms of communication.

In conclusion, the rules of the game are changing rapidly. Smart companies will be integrating social and environmental policies into their planning at the earliest stage, conscious that this is smart business practice as well as a strong source of the "feel good" factor among employees. As production and manufacturing processes grow more efficient, and companies realize that corporate attitudes and behaviour are as important in building loyal consumer relationships as tangible products, we should see progress towards less waste (most customer service is non-tangible) and more sophisticated definitions of growth, i.e. of relationships rather than sales. This should help moderate the need to stimulate physical consumption beyond sustainable limits.

Consumers themselves will be the drivers of this movement, increasingly well-informed as they are becoming through the Internet. They are already beginning to make their judgments on the basis of corporate integrity and trustworthiness.

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Sustainable consumption: the challenge for the coming generation

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Abstract

The "Youth Vision for Sustainable Consumption" was developed at the recent Global Sustainable Consumption Strategy Retreat at Oxford. Why we consume as we do, and how consumption patterns can be made more sustainable, are the type of questions young people in many countries are trying to answer. Examples are given of ongoing sustainable consumption activities in Cameroon, the Philippines and Canada.

Résumé

La "Vision des jeunes pour une consommation durable" a été élaborée lors du récent forum d'Oxford consacré à la stratégie mondiale pour une consommation durable. Pourquoi consommons-nous comme nous le faisons et comment les modes de consommation peuvent-ils devenir écologiquement plus viables, tel est le type de questions auxquelles les jeunes de nombreux pays s'efforcent de répondre. L'article donne des exemples d'activités actuellement menées au Cameroun, aux Philippines et au Canada en faveur d'une consommation durable.

Resumen

Durante el Retiro para la Estrategia de Consumo Sostenible Mundial que se celebró en Oxford, se desarrolló la "Youth Vision for Sustainable Consumption" (Perspectiva de los jóvenes para un consumo sostenible). En ella se plantearon preguntas como ¿por qué consumimos del modo en que lo hacemos? o ¿cómo conseguir que los modelos de consumo sean más sostenibles?, que jóvenes de numerosos países tratan de responder. Se ofrecen ejemplos de las actividades para el consumo sostenible que se están poniendo en práctica en Camerún, las Filipinas y Canadá.

During a retreat at Oxford University in August, youth leaders from six world regions developed the "Youth Vision for Sustainable Consumption". However, a vision in itself can only *help* to change the world. Many important issues need to be considered. These include:

- what sustainable consumption means to young people;
- the type of changes needed to make their consumption patterns more sustainable;
- processes that shape these consumption patterns;
- encouraging signs that could form the basis of large-scale change;
- who the main agents of large-scale change are, and the actions they can take; and most important,
- what we can do now.

What are young people's needs for quality of life?

As a basic starting point, young people agree on the goal of a world in which no one has to compromise with regard to physical needs (e.g. clean air, healthy food, fresh water, shelter and clothing). These are primary needs that should be met for everyone. Other needs such as justice, freedom, education, creativity, purpose, mobility, recreation, free time, civic involvement, family, religion, safety, communication and infrastructure, which are also very important to quality of life, can be met in a way that is responsible rather than wasteful.

How do current consumption patterns meet these needs?

Many young people feel their current levels and quality of consumption are not safe, efficient or sustainable. It is also recognized that consumption patterns are inequitable, both globally and locally, with some young people consuming too much while many, many others are unable to consume enough to meet basic needs. Some consumption is clearly necessary and positive.

What changes in consumption patterns are needed?

Consumer empowerment, which is seen as a key to bringing about the needed changes, could be realized through close collaboration among professionals, corporations and other partners. Ordinary people in every region should be shown how to make sure products and services "close the loop".

In particular, young people feel that as consumers they could:

- make eco-lifestyles fashionable, like other social trends;
- disseminate education and information to others;
- apply life cycle considerations to their purchases;
- emphasize positive human values that are not associated with material goods or status symbols;
- consume quality, not quantity;
- live better with less (i.e. be more, not have more);
- support the growth of a stream of sustainable consumers, while slowly trying to change whole societies;
- help the rich learn to consume more wisely, and the poor to consume more; and
- empower themselves.

What are the processes that shape youth consumption patterns?

A review of current and past research on consumption patterns shows that most policy analysis has been confined to looking at technological changes and at markets. In itself, this is inadequate. It is possible to look deeper. Psychological influences on consumption patterns include childhood conditioning, deep-seated values and associations, and perceived needs and aspirations. Social factors include assigning of status to objects, links between social roles and consumption patterns (e.g. gender roles in households), and use of consumption as an instrument of power. Cultural factors include the link between "western" cultures and consumption, technology and markets; individualism, ownership and consumerism as modern ideals; and the various meanings attached to patterns of behaviour and to objects.

Governments could have an impact on consumption patterns through: choosing priorities and developing alternatives; local, regional, national, multinational and global processes; policy networks, alliances and alliance-shifting; and transparency, stakeholder involvement, and encouragement of citizen empowerment through full public participation in policy-making.

How can consumption patterns be changed?

How are changes in consumption patterns related to changes in family relationships, education, working patterns, media messages, religion and politics, as well as to conventional policy areas such as infrastructure, the legal system, markets and technology? Innovation and diffusion processes are better understood in relation to technology than to behaviour and lifestyles. Here are some ideas concerning the initiation of needed changes:[1]

- Develop a new mythology:
  - Use real life people as the new "myths";
  - Promote sustainability activities by sharing stories and best practices;
  - Seek celebrity support for campaigns.
- Learn to use media messages and marketing:
  - Market sustainable consumption as healthy, simple, responsible, cool;
  - Track and promote identity changes and new images;
  - "Mainstream" sustainability [:] to habits (e.g.

infrastructure change, green products).

◆ **Influence the "undecided" societies** (e.g. Eastern Europe)

- Identify organic, fresh, low-impact and efficient with progress;
- Raise new consumers' awareness of the desirability of buying green;
- Harness old values of frugality.

◆ **Find ways to "prove" good products**

- Reinforce consumers' right to know, as well as setting high standards and ensuring auditing and monitoring;
- Promote real change in big companies, and support awareness in smaller and newer ones.

◆ Adopt some aspects of the new counterculture

- Support public art and informal consumer or peer education;
- Distribute alternative media such as *Adbusters*, *Alternatives Journal*, etc.

◆ Reach out to institutional consumers

- Influence local government procurement through citizens groups and youth delegations;
- Influence local schools by lobbying school boards;
- Target apartment buildings and university campuses.

What are some encouraging signs of change?

When youth leaders from around the world gather to look at an issue as complex as sustainable consumption, it helps to base their work on concrete examples of change. Three of the many examples presented at Oxford are summarized below.

Africa

In West Africa, *Global Village Cameroun* (a group involved in promoting sustainable consumption among young people) carried out a research project on current consumption patterns. It revealed that young consumers were more interested in labels and popular brands than in their actual needs or product quality. At the local and national level, the group has organized seminars, round-table discussions and environmental studies on themes related to this topic. A quarterly newsletter sensitizes the whole population to issues, activities and what should be done. These young people have also coordinated research on environmental clubs, to gain a better idea of the relationship between student activities, the environment and sustainable development. They are organizing a youth awareness campaign to counteract the trend towards unsustainable consumption patterns. It will begin with a national forum, which will look at youth empowerment as a way to influence consumption patterns. The Minister of Environment has given this initiative his moral support. This group is the French-speaking African part of the UNEP Youth Advisory Council (YAC).

West Asia

In the Philippines, the Earth Savers Organization has carried out a very effective campaign to ban the use of non-biodegradable material for packaging. They picketed a large fast food chain that had not been not been packaging its food appropriately. Although they had permission to hold this demonstration, participants spent some time in jail. The experience made all the actors involved more willing to come to the table for dialogue and negotiations. Students have talked to companies as well as consumers, and there is now regular dialogue with everyone involved. The campaign urges young people to reconsider their ideal lifestyles, reduce consumption of unsustainable materials, and use less of everything including artificial foods, clothing and unsustainable transport (e.g. large gas-guzzling cars). The Earth Savers have been mandated to draft a parliamentary bill aimed at halting producers' use of non-biodegradable substances for packaging. They are also involved in information dissemination. The group holds a national youth forum every month, as well as an annual youth for sustainable development assembly, and is organizing among university students to create awareness.

North America

In North America, urban planning issues are a key to sustainable consumption. Many young people live in urban areas, and their ability to consume cheaply and more sustainably depends on efficient public transport, bicycle routes, access to green space, etc. The Environmental Youth Alliance (EYA) is experimenting with energy consumption projects, in a spirit of "learning through doing", and is campaigning to help Canada meet its Kyoto Protocol commitments. A wind power generator is being built, to prove that viable local sources of non-fuel power exist. Bicycle sharing stations are being set up, and there is lobbying to introduce electric vehicles in car co-operatives. One of EYA's projects, "Young Women Creating Change", has helped young women learn carpentry. They have built a demonstration house using alternative technology, such as solar collectors and full water and organic waste treatment recycling, as well as non-toxic paints. On site, organic gardening is being encouraged and safe reuse of building materials is being explored. Social justice and diversity are concerns in the urban environmental movement. Youth groups address these concerns by including traditionally marginalized groups in all projects, and by forming partnerships with other local groups such as indigenous or ethnic youth associations. This year young people are undertaking peer education and spreading the word through a video aimed at schools, libraries, community centres and national networks of youth environmental groups.

Note

1. Also see, for example, "Promoting sustainable consumption: where similarities cut through differences" by Pradeep Kakkar, page 40 in this issue.

**Marie-Claire Segger is co-facilitator of the UNEP Youth Advisory Council. She also co-chairs a new youth advisory board for the Oxford Commission on Sustainable Consumption. She was one of the founders of the Canadian Environmental Network Youth Caucus in Canada.*

◆

A Youth Vision of Sustainable Consumption

Imagine a world where everyone has their basic needs covered, including access to food and the best education to help them fulfil their dreams. All cultures are strong and vibrant, and all people are environmentally conscious. In the shops you find only sustainable products (with only necessary packaging, all biodegradable and recyclable). Living spaces are planned around communities and use only energy-efficient public transport (there are many fewer cars). There is no garbage, and there are no disposable products. There are big green areas in every city, and rooftop gardens where people grow organic food.

We believe people all over the world can obtain the highest quality of life. However, quality of life will no longer be defined as limitless expansion of the use and trade of polluting and resource-intensive goods and services. We know that, for future generations to have a chance to meet their needs, our generation has to be the one to make this change.

A definition of sustainable consumption

The following definition was considered helpful:

Sustainable consumption means being aware of the impact of our lifestyles, and acting to use only our fair share of resources by making the right choices. We have to create and strengthen a new trend among a new generation.

Ask before buying.

Where does it come from?
How is it disposed of?
Will it last?
Can I fix it?
Do I really need it?

Upshifting and downshifting for global change

Top 20% of consumers
- change mentality, downshift;
- change types of investments, the way money is made;
- promote simplicity.

Middle 40%
- develop a career they love;
- incentives to buy green (lower prices);
- alternatives that are available and practical;
- effective public initiatives.

Bottom 40%
- access to sustainable ways to meet basic needs, upshifting;
- access to consumer information, including on consumer rights;
- efficient irrigation and agricultural practices;
- an end to poverty.

UNEP, youth and sustainable consumption

Youth is a key factor in achieving sustainable consumption. Young adults in particular (aged 18 to 25) are already able to influence what happens in the market and in their homes, through their decisions as professionals and consumers.

Considering youth as a major partner and an investment, in February 1999 UNEP launched the **UNEP Youth and Sustainable Consumption Strategy**.

The Strategy is based on the following considerations:

1. Youth makes up a distinct consumer category, whose nature requires a different approach than that so far adopted in sustainable consumption activities.
2. A large portion of family consumption is directly or indirectly influenced by these young people.
3. Youth has to be looked at as tomorrow's consumers. The consumption patterns and desires acquired today will influence their adult life style and consumption patterns.
4. Youth is more open to change.
5. Youth has the most to gain from shifting to sustainable development and consumption patterns.

Who is involved?

The Strategy involves UNEP, a world-wide network of youth associations called the UNEP Youth Advisory Council (YAC), and the Commission for Sustainable Development (CSD).

What is the Strategy goal?

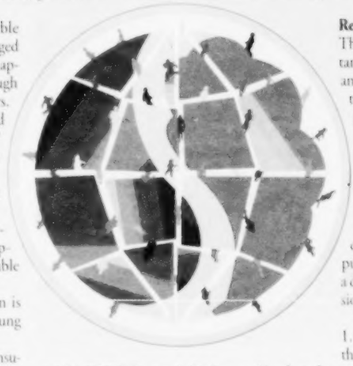
The Strategy has a triple goal of:

1. investigating the role of youth in promoting sustainable consumption;
2. engaging a global process of consultation on this topic;
3. encouraging actions to promote sustainable consumption among youth.

How is the Strategy structured?

UNEP and its partners have chosen to act on two fronts:

1. The **Global Sustainable Consumption Campaign** will raise awareness and promote actions concerning sustainable consumption. This Campaign is coordinated by UNEP, with the help of YAC representatives in various countries. Members of YAC will act as local sustainable consumption "ambassadors" and set up awareness campaigns to make the public aware of the meaning and practical implications of adopting a sustainable life style. The campaign is called "**Step Lightly**". In English, this expression has a special meaning. By calling their campaign "Step Lightly" the YAC groups are telling their young members and the public: step in, live and enjoy everything you do, but be light, make sure your actions do not weigh too much on your surroundings and on the heritage of future generations.



2. The **UNEP Research Project on Youth and Sustainable Consumption** will survey current youth consumption trends and drivers. The project is called: **Is the Future Yours?** It will consist in the distribution of a questionnaire to young adults living mainly in cities, who will be interviewed on their interests, attitude towards consumption, and vision of the future. The findings will be analysed. They will be the basis of future UNEP actions with regard to youth and consumption.

An additional aspect of the Strategy consists in encouraging partnership and dialogue between youth environmental or ethical organizations and the private sector. This is why UNEP encourages the participation of youth (mostly YAC) in conferences and events focused on business and sustainability.

The "Step Lightly" Campaign

The Campaign has an initial coverage of around 20 countries. Some country activities started in 1999, others will be launched in 2000. Each YAC group will deliver the general sustainable consumption message, but is free to cover the aspect of a sustainable lifestyle most likely to be "adopted" in a country. Marie Tamoifo (YAC Cameroon), who has organized a media campaign, is currently travelling from village to village to present ways to save water. On the other side of the world, Antony Ambahan of YAC Philippines has involved academia and some theatre groups in encouraging consumers to put pressure on companies to reduce use of packaging (see accompanying article). In 1999, YAC Mexico issued a shopping guide for members indicating how to purchase environmentally and ethically correct goods ("fair trade"). YAC Mexico will continue to develop this campaign along a similar line in 2000. Celine Schwob, who has the difficult task of creating a youth sustainable consumption network in France from scratch, will focus on food and health. The launch of her campaign was hosted by the ice cream maker Ben and Jerry's.

Research: is the future yours?

The research project aims at improving understanding of consumption patterns among youth, and of evaluating their potential as actors in the transition to more sustainable consumption patterns.

The main feature is distribution of a questionnaire to around 15,000 people in 22 countries. Neither the questionnaire nor the research project as a whole are intended to constitute scientific consumer research. They will provide more of a first insight into consumption trends and drivers of the young public. This initiative represents the first step in a dialogue between UNEP and tomorrow's decision-makers.

The questionnaire asks young people:

1. what they are mostly interested in, and how they relate sustainability issues (the economy, the environment, and respect for human and labour rights) to their day-to-day actions;
2. what their behaviour is as consumers: do they practise sustainable consumption? do their choices reflect their interest in sustainability (if any)?;
3. what expectations they have for the future, and how they intend to shape it.

The research project also has a strong awareness raising component. The questionnaire is to be distributed with a brochure giving general information on sustainable consumption and some easy first steps for translating it into day-to-day action.

The research project will be concluded by a more extensive report on youth and sustainable consumption, which will address the following issues:

1. driving forces of youth consumption, particularly the influence of media and globalization in shaping youth aspirations and values;
2. youth perceptions of sustainable consumption and their role in it;
3. experiences in approaching consumption issues in different cultural areas;
4. recommendations for future actions of the UNEP Youth and Sustainable Consumption Strategy.

UNEP is carrying out this project in partnership with several national and international organizations. Major partners include YAC, the Norwegian National Institute for Consumers Behaviour, the Italian Environment Agency, and Consumers International.

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El consumo sustentable en America Latina – el estado del arte

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Abstract
Latin American countries have not established formal policies to change people's consumption patterns. Only a few initiatives are being developed, mainly in the areas of education and recycling practices or in response to an economic crisis. Local councils, municipalities and non-governmental organizations have been in the forefront of efforts to explore ways of modifying cultural behaviour. In light of recent events, governments are expected to take an active role, calling on all sectors concerned to draw public attention to the threat of a steadily decreasing quality of life.

Résumé
Les pays latino-américains n'ont pas de politiques officielles pour réorienter les modes de consommation de la population. Quelques recentes initiatives, portant généralement sur la sensibilisation et le recyclage ou découlant de crises conjoncturelles, commencent à se mettre en place. Ce sont surtout les mairies, les communes et les organisations non gouvernementales qui ont tenté de comprendre ce qu'implique un changement des comportements culturels de la population. Aujourd'hui, face aux nouveaux scénarios qui se présentent, on peut espérer un engagement plus actif des gouvernements pour amener tous les acteurs à réfléchir à la menace que fait peser sur la population une constante détérioration de la qualité de vie.

Resumen
En América Latina no existen políticas oficiales dirigidas a reorientar los patrones de consumo de la población. En forma incipiente se desarrollan algunas iniciativas que por lo general están orientadas a la educación y al fomento de prácticas de reciclaje o responden a crisis coyunturales. Son los municipios, las comunas y las organizaciones no gubernamentales, las que han asumido con mayor compromiso el reto que significa cambiar el comportamiento cultural de la población. En la actualidad y ante los nuevos escenarios emergentes se espera que los gobiernos asuman un rol mas activo y convoquen a todos los sectores para enfrentar lo que significa para la gente la amenaza del constante deterioro de la calidad de su calidad de vida.

Introducción

Asumimos como punto de partida para nuestro análisis, que el consumo es hoy día una de las principales causas del deterioro ambiental en el mundo, y que por consiguiente tal situación demanda un compromiso de toda la humanidad para cambiar los actuales hábitos insustentables de consumo.

Tal compromiso, fue ratificado en la Cumbre de Rio en 1992, cuando la mayoría de los gobiernos del mundo suscribieron un compromiso global de protección ambiental y apoyaron la Agenda 21 que contiene un capítulo especial dedicado al cambio de los patrones de producción y consumo.

En ese mismo contexto internacional ya se advirtió sobre las enormes diferencias sociales existentes tanto entre los diferentes países como entre los habitantes de un mismo país, subrayándose que como una consecuencia del desigual acceso a los bienes de producción y de consumo las responsabilidades son comunes pero diferenciadas.

Siete años después la situación de pobreza y subconsumo no es demasiado diferente, llegando incluso a empeorar en algunos sectores como lo expresa el informe de Desarrollo Humano del PNUD 1998.[1]

De acuerdo con los parámetros actuales de la globalización, en los países de América Latina es solo una minoría la que disfruta de los bienes materiales ofrecido por la apertura de los mercados y el consumismo desmesurado y la pobreza conviven dentro cada uno de los países. La naturaleza finita se transforma en un bien de uso exclusivo agravando la espiral de la pobreza, despilfarro de recursos, consumo conspicuo e insustentabilidad ambiental.

Desde el punto de vista del impacto ambiental de los patrones de consumo, en América Latina tenemos problemas particulares que son comunes de todos los países de la región. Algunos de ellos son, los altos grados de urbanización estimulados por un abuso irracional y mercantil del uso del suelo, las altas densidades de población y los patrones cambiantes de consumo que han originado una degradación significativa del medio ambiente urbano en el continente. El incremento del uso de autos privados, los problemas originados por un transporte público inadecuado, la falta de acceso al agua potable en muchas ciudades, la carencia de tratamiento de las aguas servidas, la contaminación del aire y el creciente problema generado por los residuos sólidos domiciliarios, son los problemas mas acuciantes.

La necesidad de situar cultural y políticamente cualquier análisis o discurso sobre políticas y acciones destinadas a fomentar un consumo sustentable en América Latina y desde ese ángulo examinar lo que hoy acontece, no exime a los gobiernos ni a los países de la región de sus responsabilidades individuales y colectivas frente a la crisis ambiental, sino que establece un marco de enfoque, a nuestro juicio, imprescindible.

Las responsabilidades del estado

En el año 1997 la Oficina Regional de Consumers International para América Latina y el Caribe, fue requerida por el Consejo la Tierra para elaborar un informe sobre el estado de la implementación de los acuerdos de Río concernientes al cambio de los patrones insostenibles de producción y consumo, identificando los avances y estableciendo los puntos críticos.

El informe fue hecho en base a una encuesta elaborada por la Oficina Regional de Consumers International, que conto con la participación de diferentes organizaciones de ambientalistas y de consumidores de América Latina y el Caribe examinando principalmente el seguimiento que los gobiernos le habían dado a dichos acuerdos. El informe expresa en una de sus partes :

"La primera conclusión es que aun cuando existen iniciativas por parte de los organismos del Estado que insinúan una preocupación por el tema, no existe en ninguno de los países encuestados una política de Estado dirigida a estimular de manera coherente y estructurada un cambio en los patrones de consumo de la población."[2]

Entre lo que va corrido desde la fecha del informe hasta el día de hoy, la situación no ha cambiado sustancialmente.

La tendencia es la misma, a pesar de que empieza a existir un rol mas activo principalmente por parte de los gobiernos locales que también fomentan las iniciativas provenientes de las organizaciones de la sociedad civil.

También es necesario resaltar durante los últimos años se han hecho importantes avances en creación de marcos jurídicos institucionales, encargados de la formulación, ejecución, supervisión y evaluación de los planes nacionales de defensa del medio ambiente, la instrumentación de políticas nacionales ambientales, o la coordinación con los organismos públicos para la ejecución de sus objetivos. Sin embargo, y a pesar de lo anterior, el fomento para un consumo sustentable, continua siendo un tema marginal.

Son pocos los países que teniendo entidades estatales de protección al consumidor, integran elementos que vinculan la protección del consumidor con la protección del medioambiente. Un ejemplo positivo de esto es el trabajo que a través de su programa de Educación al Consumidor, realiza la Procuraduría Federal del Consumidor en Méjico.

Dentro del contexto de análisis de la incitativas estatales, es necesario resaltar dos hechos acontecidos recientemente.

El día 14 de Abril del año en curso entró en vigencia en Paraguay la *Ley de Defensa del Consumidor y del Usuario*. Esta ley contiene disposiciones concretas que hacen mención al medio ambiente, al igual que otras leyes vigentes con anterioridad en otros países. Lo especial de la ley paraguaya es que en uno de sus artículos establece una definición de consumo sustentable calificando su promoción como una cuestión de Estado.

También y en forma reciente en Brasil fue promulgada una ley sobre pilas y baterías. Esta ley define la responsabilidad de los fabricantes y/o importadores sobre la disposición final de los desechos, estableciendo un mecanismo en el que los consumidores entregan los proveedores las pilas y baterías usadas.

La iniciativa de los privados

Tal vez lo mas novedoso acontecido en los últimos años sean las diferentes iniciativas que la empresa privada esta tomando especialmente con el tratamiento de residuos sólidos domiciliarios.

En el sector relacionado con el reciclaje la presencia de empresariado es visible.

Cabe mencionar, a modo de ejemplo, una asociación llamada "Compromiso Empresarial por el Reciclaje (CEMPRE)" fundada de 1992 y compuesta por un núcleo de diversas empresas como, cervecerías, bebidas gaseosas, papeles, etc.

Esta asociación que define como uno de sus fines concientizar sobre el reciclaje a la sociedad entera, esta principalmente dirigida al empresariado educándolo sobre los beneficios económicos y sociales de invertir en la industria del reciclaje.

Cempre, cuya principal actividad se desarrolla en Brasil, también hoy cuenta con filiales en Uruguay y Argentina.

Con diferentes nombres y aproximaciones, podemos decir que durante los últimos años se empieza cada vez mas a notar la actividad privada en el tratamiento de residuos sólidos, en la industria del reciclaje y el compost en la mayoría de los países de la región, lo que podemos enmarcar dentro de acciones e iniciativas para una sustentabilidad ambiental *post-consumo*

Acciones preventivas

En lo que se refiere a acciones de prevención *pre-consumo* podemos visualizar cuatro temas donde acciones que directa o indirectamente fomentan un consumo sustentable generan impacto público y convocan a un compromiso de los consumidores, los gobiernos y los productores :

1. El ahorro energético
2. El problema de la basura
3. La regulación del transporte publico
4. La educación al consumidor

Con respecto al primer punto de ahorro energético, las repetidas crisis ocurridas en el suministro de electricidad sucedidas en varios países de la región y provocada entre otras cosas, por los cambios en la propiedad de las principales generadores, algunos gobiernos se han visto en la obligación de iniciar campeñas de ahorro energético con el fin de incentivar a la población a cambiar sus hábitos. Estas campañas se hacen solo esporádicamente como respuesta a las crisis, y desafortunadamente no forman parte de una política de largo plazo que promueva un uso energético racional y responsable ni tampoco que estimule la investigación sobre fuentes alternativas de energía.

Foto : Demian Larenas

En segundo lugar, y como viéramos previamente, los grandes cambios operados en los patrones de consumo de la población latinoamericana en los últimos años, han traído consigo un gran aumento de los residuos sólidos domiciliarios y provocado fuertes tensiones ambientales y sociales sobre la ubicación de los vertederos y los métodos para procesar la basura.

En este ámbito se está operando un cambio que no solo va encaminado a lo que llamamos acciones *post-consumo*, como es el caso del trabajo de los privados que vimos con anterioridad sino que también, podemos ubicar las múltiples iniciativas de educación ambiental que llevan adelante diversos sectores de la sociedad, destacándose entre estos, las acciones comunales, vecinales y sobre todo de las organizaciones no gubernamentales.

En efecto, son muchos los casos de municipios y comunas, que a lo largo de América Latina han

Foto : Demian Larenas

emprendido la tarea de educar a sus habitantes,invirtiendo recursos que por ejemplo eduquen al consumidor en el reciclaje familiar.

Una de las formas de trabajo más recurrente, es el establecimiento de convenios de trabajo con empresas privadas y/o organizaciones no gubernamentales a través de los cuales se logran captar recursos económicos e incorporar las experiencias e iniciativas de la sociedad civil. Por ejemplo en algunas comunas de la ciudad de Santiago están en marcha campañas para enfrentar el problema de la basura domiciliaria en su fuente de origen: el hogar. La consigna del programa piloto es: *"Para que tu basura se transforme en vida, participa"*, y esta compuesto de:

- experiencia piloto de separación de residuos sólidos domiciliarios en la fuente de origen y experiencia piloto de compostado de residuos orgánicos;
- campaña de sensibilización de la población respecto de los residuos tóxicos, a través del acopio de pilas;
- organización de un sistema comunitario de comercialización de papel y vidrio.

Foto : Demian Larenas

- seguimiento educativo y sistematización del proceso.

Este caso aunque localizado en un país determinado, nos sirve para ilustrar muchas iniciativas en casi todos los países de la región donde la acción común de los municipios, de organizaciones no gubernamentales, y en alguna medida de entidades de gubernamentales, intentan llenar los vacíos existentes.

En tercer lugar podemos notar una serie de medidas tendientes a disminuir los impactos del enorme y desmedido crecimiento del parque automotriz que es hoy día es una de las principales fuentes de contaminación de las congestionados centros urbanos de América Latina y en algunos países se ha convertido en un tema de salud pública. Diversas medidas que van desde la prohibición de circular para algunos vehículos mediante un sistema de calendarios rotativos, la implementación de catalizadores y filtros de gases, un sistema de monitoreo y mediciones regulares de la calidad del aire y, en casos extremos como el de la ciudad de Santiago, la declaración de estados de emergencia ambientales, son hoy en día una medida que en la mayoría de los países se implementa con diferentes intensidades y efectos.

Estas medidas están acompañadas de un tibio y muchas veces contradictorio estímulo del transporte público, a través de la creación de trenes subterráneos y medidas de seguridad vial.

Por último donde podemos observar mayores compromisos efectivos es el plano de la educación. En muchos países existe la educación ambiental en la malla curricular, y cuando no forma parte de los planes de reforma educativas que están viviendo muchos países. Además del ejemplo de México mencionado mas arriba, cabe aquí nombrar los esfuerzos hechos en el plano del consumo sustentable y la educación al consumidor por la Secretaría de Medio Ambiente del Estado de Sao Paulo, Brasil que a través del departamento de Consumo y Medio ambiente lleva adelante programa de educación al consumidor en consumo sustentables, y ha publicado un gran número de cartillas, manuales y libros sobre el tema.

Foto : Demian Larenas

El caso de las directrices de Protección al Consumidor.

El reciente proceso abierto por la Extensión de las Directrices de Protección al Consumidor de Naciones Unidas hacia el área del consumo sustentable, muestra nuevamente los grandes vacíos institucionales existentes en América Latina para promover un cambio de los patrones de consumo.

Por mandato de Naciones Unidas, Consumers International y sus organizaciones miembros elaboraron un texto con propuestas de medidas que los gobiernos deberían tomar para facilitar un cambio de los patrones de producción y consumo con el fin que fueran incorporados a las directrices de protección al consumidor vigentes desde 1985.

Para ejecutar este mandato, Consumers International realizó durante tres años un intenso trabajo con los gobiernos de la región con el fin de conseguir el respaldo de estos para la aprobación de las directrices en Asamblea General de la Séptima Sesión de la Comisión de Desarrollo Sustentable.

Este trabajo nos mostró dos cosas importantes. La primera es que todos los gobiernos de la región con diferentes grados de compromiso, se mostraron sensibles a la propuesta y apoyaron la aprobación de las directrices, hecho que finalmente ocurrió en la mencionada reunión que tuvo lugar en abril del año en curso.

El segundo hecho de importancia es que esta experiencia nos demostró nuevamente la ausencia de una institucionalidad competente en el área del consumo sustentable al no existir en ningún país claridad sobre que organismo será el responsable de implementar las directrices y poner en práctica los acuerdos suscritos por sus respectivos países.

Ante esta situación, las organizaciones de consumidores creemos que en los próximos años será principalmente labor nuestra abogar por la implementación de este marco de trabajo internacionalmente reconocido, siendo necesario hacer propuestas que los gobiernos establezcan los mecanismos necesarios para una efectiva puesta en mar-

Promoting sustainable consumption: where similarities cut through differences

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Future consumption patterns often emerge from consumer trends first established in the world's major urban centres. Recent research has shown that consumer aspirations in the world's 40 major cities, whether they are in developed or developing countries, are remarkably similar despite cultural or geographical differences. This is one reason why international corporations have been able to develop global marketing and advertising strategies to sell their products in what would otherwise seem to be different markets. The similarity of consumer aspirations in the world's major cities thus provides an important opportunity for advertising more sustainable consumer trends.

The following briefly describes marketing and advertising experience with market segmentation. Human nature is similar around the world, even though it may be masked by cultural dissimilarities. A city-focused campaign promoting sustainable consumption could therefore be launched using this experience.

Market segmentation – the key to successful strategy

Marketing and advertising strategists have learned the hard way that how we define the market is vital to achieving results. We started with a commodity view of consumers that completely ignored their needs and motives ("give the customer any car he wants, as long as it is black"). Thereafter, we took a demographic view and attempted basic relationships of consumption behaviour with variables such as age, sex and geography. Perhaps as a reaction to the unexciting (and unstable) nature of these consumer profiles, strategists next began leaning heavily on psychoanalytic bases for segmenting markets, and personality types became the rage.

Finally, with almost 50 years of effort behind us, we have learned that what works well in segmenting markets is *life style*. Also referred to as psychographics or a VALS (values, attitudes and life style) based approach, this broad-spectrum, multi-dimensional view spans consumer activities, interests, attitudes and opinions. An inventory of such life style variables *collectively* seems to relate well to a set of behaviours, in contrast with earlier attempts that looked for univariate relationships (e.g. personality type and make of car purchased). The theoretical understanding and computing ability underpinning the application of this multivariate approach to segmentation has been the biggest leap for marketing and advertising strategists since the realization that consumers are not one homogeneous mass.

Human nature over specific culture

Consider the following research findings:

1. An advertising study[1] of consumer life styles profiled American women as follows:
- old-fashioned traditionalists (25%): devoted wife, doting mother, TV watcher;
- militant mothers (20%): married too early, frustrated with life circumstances;
- chic suburbanites (20%): urbane, genteel, prime mover in community;
- contented housewives (18%): simple, family-centred, small town dweller;
- elegant socialites (17%): confident, on-the-go, fashion conscious, big city cosmopolite.

2. Another study[2] found that consumption behaviour was related to psychographic segments such as survivors, sustainers, belongers, emulators, achievers, I-am-me's and societally conscious. The basis for this segmentation seemed fundamentally to be related to how people were coping with life.

3. A 1998 study by an advertising agency, O&M, "Simmering Within: Asian Mothers and their Rising Expectations," was conducted in 22 cities across Asia on urban mothers in the age group 25 to 45. The survey was an eye-opener with respect to the myths it shattered. For example:
- Though Asian women are supposed to be the silent, suffering types, they have a "me" lurking within waiting to be tapped;
- They loathe advertising that is patronizing or goes overboard in saluting them;
- Broadly, wherever they may be, women are playing roles that are a mix of maid, mother, manager, mediator and mate.

4. A proprietary, cross-national study of youth in the Asia Pacific region, *New Generations*, was conducted in 1998 for the Cartoon Network on 5700 children aged seven to 18 across 18 cities in 12 countries. The data showed, among other things, that:
- When asked "If you could go anywhere in the world, where would you choose to go?", children in *ten out of twelve* countries said the United States. The exceptions were Hong Kong children, who chose Japan, and Singapore kids, who opted for Australia.
- When asked "Who is your favourite sports person?", children in *six of the twelve* countries chose Michael Jordan.

Such psychographic profiling, based on a multidimensional probe of attitudes, aspirations and values, now points quite consistently to global consumer types. Driven primarily by an increasingly shared economic, technological and information environment (MTV's world-wide reach is about 300 million homes, CNN's 170 million), these consumer types transcend cultural and regional boundaries and reflect similar patterns of consumption.

Therein lies an opportunity for promoting sustainable consumption.

Conclusion: 40 cities that make a difference

Since global consumer types, as well as global consumption trends, are likely to be concentrated in the world's major cities, it is proposed that these cities constitute our primary target for a campaign. By "major" we do not necessarily mean largest in population terms. In fact, a quick scan of the 40 largest cities in the world shows that 23 are in Asia and only nine in Europe and North America.

While consumption data on these cities are being compiled, it would be reasonable to assume that if a campaign is to have carry-over effects on the rest of the world, it must target those cities that are important not only in size but also for other reasons: as benchmarks for good practice, as potential flash points, or as trend setters. For instance, Singapore would probably make more of a difference to the future of the planet than Changchun, also in China, even though the latter has a 25% greater population. The selection of these cities could be done using a Delphi approach.[3] A working list is proposed here.[4]

There would be several advantages of focusing on a limited number of key cities:
- Financial, managerial and creative resources would be employed much more efficiently because of the specific nature of the target and the "doability" of the task.
- The campaign would skirt extraneous barriers that might crop up if national or regional markets were selected.
- The campaign could adopt common themes, cues and symbolism across the cities, and therefore would have an "auto-leveraging" effect similar to that of brands such as Levis, Nike and Coke.

As performance indicators, the campaign could use city-level figures reflecting material and services consumed, waste generated and overall indices of "city sentiment".

Finally, such a campaign, to be successful, would need to involve the full range of stakeholders, such as advertising agencies, corporate clients, city authorities, non-governmental organizations and public interest groups, in partnership with the UN Centre for Human Settlements (HABITAT) and its industry and sustainable cities programmes.

Notes

1. Sunil Mehrotra and William D. Wells (1977) Psychographics and Buyer Behavior: Theory and Recent Empirical Findings. In: A. Woodside, J. Sheth and P. Bennett (eds). *Consumer and Industrial Buying Behavior*. Elsevier/North-Holland, New York.

2. Thomas, T.C. and S. Crocker (1981) *Value and Lifestyle – The New Psychographics*. SRI International, Menlo Park, California.

3. The Delphi method uses questionnaires to determine a consensus opinion.

4. Amsterdam, Baltimore, Bangkok, Beijing, Barcelona, Bombay, Cairo, Calcutta, Cape Town, Chicago, Dhaka, Hong Kong, Houston, Istanbul, Jakarta, Karachi, Kuala Lumpur, Lagos, Lima, London, Los Angeles, Manila, Mexico City, New Delhi, New York, Osaka, Paris, Philadelphia, Quito, Rio de Janeiro, Rome, San Francisco, Sao Paulo, Seattle, Shanghai, Singapore, Sydney, Teheran, Tokyo, Washington D.C.

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cha. De esta manera las organizaciones ambientalistas y de consumidores podrán contribuir a la coherencia de una política del estado para el cambio de los hábitos de consumo de nuestra población, ya que las directrices contienen herramientas, conceptos, y propuestas de políticas públicas que, de acuerdo a las circunstancias de cada país, deben y pueden ser implementadas en cada uno de ellos. Brevemente, algunas de estas son:

1. Estimular la producción y el consumo sustentable mediante la introducción de precios diferenciados en bienes y servicios, según su impacto sobre el medio ambiente, como una manera importante de orientar el poder de compra de los consumidores.
2. Intensificar los esfuerzos en promover la eficacia y la conservación de la energía así como la innovación y la transferencia tecnológica, incrementando la recuperación de desechos, la reutilización y el reciclaje de materiales tanto en la producción como el consumo.
3. Promover la entrega de información a los consumidores acerca del impacto ambiental de productos y servicios a través de medios tales como esquemas de ecoetiquetado, líneas de información sobre productos, informes ambientales sobre la industria y centros de información a los consumidores.

Acciones en camino

De acuerdo a la si[illegible]ión descrita previamente podemos concluir que en la actualidad las principales acciones que se están llevando a cabo para la promoción de un consumo sustentable en América latina, provienen indudablemente del mundo de la sociedad civil particularmente de las organizaciones no gubernamentales la que de diferentes formas trabajan por cambiar los efectos ambientalmente negativos que tiene el consumo.

En este contexto cabe nombrar el trabajo emprendido por cinco organizaciones de consumidores de los países que integran el Mercosur coordinadas por Consumers International con el fin de introducir en los respectivos países esquemas de rotulado ambiental que cuenten con respaldo técnico y legitimidad social. La organizaciones de consumidores de Argentina, Brasil, Chile, Uruguay y Paraguay consideran que el sello ambiental es una de las mejores herramientas para educar al consumidor con el objeto de que este internalice el hecho de que mediante su acto de consumo no solo está satisfaciendo sus necesidades sino que puede contribuir al beneficio o al deterioro del medio ambiente.

En una evaluación preliminar, pudimos constatar que las organizaciones han logrado generar un debate al respecto convocando a diferentes sectores y aunando criterios sobre la importancia de contar con este instrumento.

La industria, en principio relactante, ha mostrado su interés por una de nuestras propuestas, a saber, la necesidad de crear un marco regulatorio que norme el uso de las autodeclaraciones ambientales, y establezca penalidades por eventuales abusos y arbitrariedades.

También desde el lado de la certificación y promoción de una agricultura orgánica encontramos la iniciativa de las organizaciones ambientalistas y de consumidores. Tal es el caso del Centro de Estudios y Análisis del Uruguay (CEADU/Consumo), que ha estado en campaña durante los últimos años para promover tanto una agricultura libre de productos químicos como los alimentos orgánicos. En sus boletines de prensa semanales, CEADU/Consumo proporciona información acerca del impacto ambiental de productos y servicios. Un nuevo acuerdo con la Facultad de Química de la Universidad de la República del Uruguay, le presta a los informes credibilidad científica y técnica. La facultad somete a prueba frutas y verduras, buscando rastros de agroquímicos comunes, investiga casos de contaminación de alimentos, y estudia el impacto ambiental de comidas producidas en forma masiva.

Un rastreo de predios agrícolas que ya están usando técnicas orgánicas ha permitido a esta organización elaborar un mapa de las áreas donde se podrían introducir estas prácticas. Pero para interesar a los agricultores en cultivar frutas y verduras orgánicamente, tiene que haber una demanda. De manera que la organización encuestó las actitudes de los consumidores respecto a los productos orgánicos, y uso la información en una campaña en los medios de comunicación.

Este método de trabajo también se utiliza en otros países que promueven la agricultura orgánica como por ejemplo, Chile, Colombia, Mejico, Costa Rica, Perú, El Salvador, entre otros.

La organizaciones de consumidores esperamos expectantes, las enormes posibilidades que se nos abrirán con la puesta en marcha del proyecto de Ciudadanía Ambiental auspiciado por el PNUMA, PNUD y apoyado por el GEF y otros gobiernos codonantes.

Esta iniciativa única en su género convoca a sendas redes de ONGs pronenientes de diversos ámbitos y sectores, entre ellas a todas las organizaciones de consumidores agrupadas en Consumers International.

Mediante este proyecto las organizaciones de consumidores de la región podrán obtener una solida capacitación en materias ambientales y junto con organizaciones de la sociedad civil más el apoyo de los gobiernos respectivos situar en la agenda pública los problemas derivados del impacto ambiental de los patrones de consumo. El proyecto contempla entre otras actividades:

- Evaluar y examinar productos y servicios previamente seleccionados. (Test ambientales)
- Diseñar lineamientos para evaluación curriculum y elaborar propuestas educativas sobre consumo sustentable.
- Adaptación de toda la información existente en las bases de datos y su difusión mediante cartillas de información al consumidor.
- Desarrollo e implementación de sitios web.
- Organización de talleres de capacitación en todo el continente subdividido regionalmente.

Palabras finales

Nosotros consideramos que la participación ciudadana es vital en los cambios de los patrones de consumo, teniendo en cuenta que el fin último es un cambio cultural.

Consideramos que el estado debe asumir mas activamente su rol de garante del bien común estableciendo marcos, y otorgando los espacios necesarios para facilitar el transito hacia un consumo sustentable.

Sin embargo, el movimiento de consumidores coincide en que toda eventual acción gubernamental estaría incompleta si no cuenta con una ciudadanía que también asuma sus responsabilidades. La organizaciones de consumidores juegan un rol clave en este aspecto y sus trabajos deben ser apoyados creando los marcos legales y proctando los recursos para puedan desarrollar esta labor.

Como hemos querido subrayar en las líneas anteriores, en America Latina a pesar de la gran cantidad acciones existentes, aun carecemos de políticas globales e integradas que contribuyan a hacer mas efectivas las acciones, que muchas veces en forma dispersa se llevan acabo en los diferentes ámbitos y que muchas veces solo conducen a la frustración y al desencanto.

Creemos que, por ejemplo, la necesaria la implementacion de las Directrices de Protección al Consumidor implica potencialmente una enorme posibilidad de combatir la dispersión de las políticas públicas relacionadas con el consumo sustentable, creando los marcos políticos que permitan convocar a todos los sectores de la sociedad a asumir la responsabilidad que les corresponde.

De igual modo, el proyecto de Ciudadanía Ambiental, nos permitirá obtener los instrumentos y recursos necesarios para operativizar en acciones concretas y de alcance masivo las acciones que promuevan un consumo sustentable en America Latina conectándolas con las iniciativas que ya existen en la región todavía de manera fragmentada.

Esperemos que en los años venideros, ocurran los cambios necesarios y tengamos la oportunidad de hacer nuestro aporte.

1. *Informe sobre Desarrollo Humano, 1998*. Publicado para el Programa de las Naciones Unidas para el Desarrollo. Ediciones Mundi-Prensa, Madrid.
2. Earth Council, 1997. *Supplement, Sustainable Development, Prototyping at the Rio + 5 Forum, June.*

Consommation durable et valeurs culturelles

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Abstract
Globalization tends to standardize consumption and production patterns. However, there are a number of fast-growing new economic activities that offer products and services with strong cultural or heritage identities. These activities, which can include leisure and tourism, food and handicrafts, could help preserve cultural and social diversity around the world if they were integrated into local sustainable development strategies, and if consumers were sensitized and well informed.

Résumé
En face d'une mondialisation qui tend à uniformiser les modes de consommation et de production, de nouvelles activités économiques se développent à partir de produits et de services à forte valeur patrimoniale et culturelle dans les secteurs des loisirs, du tourisme, de l'agro-alimentaire et de l'artisanat. Ces activités en pleine expansion pourraient préserver les diversités culturelles et sociales dans le monde, pour peu qu'elles s'intègrent dans une stratégie locale de développement durable et que les consommateurs soient sensibilisés et correctement informés.

Resumen
El fenómeno de la globalización tiende a sistematizar los patrones de producción y consumo. Aun así, existen nuevas actividades económicas de rápido crecimiento, que ofrecen productos y servicios dotados de herencia e identidad culturales. Estas actividades, entre las que se incluyen el turismo y el ocio, la alimentación y la artesanía, podrían contribuir a preservar la diversidad cultural y social en todo el mundo si se integran debidamente en las estrategias locales para el desarrollo sostenible, y si los consumidores están sensibilizados y bien informados.

Consommation durable et biens culturels

En réaction à la mondialisation des échanges, à l'uniformisation des produits dans le domaine de la consommation grand public, et aux modèles de styles de vie qui sont véhiculés par les médias et par la publicité des sociétés multinationales, on assiste, principalement dans les pays industrialisés, à une recherche accrue d'identité et de diversité. De nouvelles activités économiques fondées sur des produits et des services dans les secteurs des loisirs, du tourisme, de l'agro-alimentaire et de l'artisanat sont en pleine expansion.

Cette diversité s'appuie souvent sur la construction artificielle de différents produits, images de marketing en fait semblables sur le fond. Elle peut aussi s'appuyer sur des diversités de produits réelles et authentiques. De plus en plus, ces produits font appel, grâce au marketing, à un retour au passé, puisant dans l'histoire locale des images des régions, ainsi que l'utilisation de savoir faire locaux. Nous consommons des **symboles** et c'est tout l'art du marketing et de la publicité de donner une image au produit, de lui donner du sens.

Mais l'émergence de ces tendances dans la stratégie du développement durable ne peut se satisfaire de simples images publicitaires. Il convient de poser le problème de la durabilité de ces activités, c'est-à-dire à la fois leur pertinence et la contribution qu'elles apportent au développement durable tant au niveau local que mondial. On doit aussi s'interroger sur la façon dont cette demande peut contribuer au développement des pays du sud et des plus pauvres.

De manière générale, on considère que la consommation durable passe, sur le plan environnemental, par la conception et la commercialisation de produits et de services soucieux et propres, naturellement peu dangereux et sans sur l'ensemble de leur cycle de vie. L'exploitation touristique, par exemple, doit respecter la charge limite supportable d'un site supportera par les milieux d'accueil. Mais le problème ne se limite pas à l'environnement : la durabilité doit aussi être culturelle.

Le domaine du tourisme durable a d'ailleurs fait l'objet d'une réflexion approfondie lors de la "Cité Sensible de la Commission du Développement Durable". Le tourisme doit être vu comme un apport une double vocation : augmenter les avantages que les communautés d'accueil peuvent retirer des ressources touristiques et maintenir l'intégrité culturelle et écologique des communautés d'accueil. Le tourisme doit donc "préserver - le legs du passé, le patrimoine et l'imagerie naturelle et culturelle des destinations touristiques et en respecter les normes socioculturelles, en particulier dans les communautés autochtones – Il y a donc une dualité nature/culture dans ce problème.

Les objets culturels historiques et les espaces naturels exceptionnels doivent être protégés et leurs usages encadrés pour éviter de les détruire, car ils ne peuvent pas être reproduits, même si on peut les restaurer partiellement. Ces protections spécifiques ne seront pas développées dans cet article, nous évoquons ici la culture vivante qui est très contemporaine, même si le passé y tient une part importante. Nous allons considérer les fondements culturels et écologiques des productions à forte identité et grande valeur patrimoniale, et nous intéresser à leur relations avec le développement durable local d'une part et la mondialisation de l'autre. Bien entendu, nous considérons que la production de biens publics culturels ne peut être limitée à leur exploitation commerciale, car ces biens jouent un rôle essentiel dans la sphère sociale et le secteur informel.

L'exemple de Barbizon (Encadré 1)

On trouve dans cet exemple deux éléments fondamentaux : un élément de repoire et d'identité construit sur le patrimoine historique, et une reconstruction moderne d'activités artistiques et de loisirs. Ici l'élément historique est la présence (lointaine) de peintres, mais cette composante historique est souvent liée à des pratiques sociales construites sur des ressources ou des contraintes locales.

On peut aussi donner l'exemple de matériaux (minéral ou végétal) qui contribuent à caractériser les constructions locales et donc le paysage. Le maintien des activités artisanales (toits en lauze, en ardoise ou en chaume dans certaines régions) par exemple) fournit de l'emploi local qui valorise des matériaux locaux souvent produits avec un impact plus faible sur l'environnement. La restauration de monuments anciens, au lieu de construire du neuf, permet des économies de matières premières. L'hébergement en gites ruraux permet de maintenir et de restaurer le patrimoine bâti, de développer un accueil de qualité sur le territoire tout entier et augmenter les contacts entre les touristes et la population et les productions locales.

En même temps, ces pratiques contribuent à maintenir vivants les éléments fondamentaux qui caractérisent les caractéristiques originales des paysages, susceptibles d'attirer les touristes et donc, d'apporter des revenus aux communautés locales. Cette approche a complété par l'évaluation des actions faites et favorisant traditionnelles au travers des consommateurs ou des touristes

Encadré 1
L'exemple de Barbizon

L'exemple du village de Barbizon est particulièrement représentatif d'un développement local fondé sur des valeurs culturelles liées à la nature. Ce village de 1200 habitants, situé à 60 km de Paris dont la Grande Rue débouche sur la forêt de Fontainebleau, ne possède aucun monument historique, château ou autre patrimoine architectural d'importance. Il a accueilli, il y a environ 150 ans, une dizaine de peintres. Et c'est sur cet épisode que s'est fondée son identité, qui a fait que ce village devienne un site classé. Vers 1850, les peintres Millet, Théodore Rousseau, Diaz, et quelques autres, en réaction contre le classicisme, viennent s'installer à l'auberge Ganne (transformée à présent en musée) afin de peindre de façon réaliste la nature et les paysans. C'est le père impressionnisme, que l'on appellera plus tard l'Ecole de Barbizon. L'endroit attire alors aussi les poètes, écrivains et autres artistes qui y font de courts séjours. Après 1940, les Parisiens viendront y passer le week-end.

A présent, Barbizon possède une dizaine de galeries de peinture, des antiquaires, des hôtels, des restaurants et même une discothèque à la lisière de la forêt. Les résidences secondaires se sont transformées en résidences principales. Les maraîchers des alentours continuent de cultiver des légumes, des salades mais aussi des fleurs coupées. Grâce au système de rotation des cultures, les champs changent de couleur selon les saisons : blé, tournesol, luzerne, choux, etc.

Ce lieu de haute valeur culturel de proximité pour la région parisienne permet des confirmations liées : promenade en forêt, à pied ou en vélo, mais aussi la culture avec la route de tous les arts (qui couvre une quarantaine de kilomètres autour de Fontainebleau.

mentaux. Il s'agit d'un système social et culturel dont les éléments se tiennent les uns les autres.

En fait, tous types de productions économiques sont principalement concernés par cette approche de développement local fondé sur des patrimoines culturels et environnementaux : l'artisanat, l'agroalimentaire et le haut tourisme.

Ces trois secteurs d'activité sont liés et doivent être pris en compte dans une approche intégrée et stratégique. En effet, l'impact économique du tourisme ne se limite pas aux seules nuitées et aux recettes directes des infrastructures touristiques (musées, parcs de loisirs, activités sportives), mais il stimule aussi la consommation de produits alimentaires locaux ou l'achat de produits artisanaux et culturels.

La **figure 1** illustre cette problématique. On y a distingué sur chacun des trois secteurs une partie des activités à vocation locale et une autre (en gris) à vocation plus nationale ou internationale. Il est évident que le tourisme valorise en majeure partie à des consommateurs venus d'ailleurs. Néanmoins, les hôtels de proximité sont loin d'être négligeables. Il en va même exactement de même pour l'artisanat d'art des emplois générés directement sur l'environnement. L'augmentation de la mobilité, qui induit une augmentation des transports. En outre, ces formes culturels de proximité contribuent au développement personnel.

Une autre façon de dominer à produits comporte dans l'activité touristique est d'allonger la durée des séjours dans un même lieu. Cela permet non seulement une consommation d'énergie moindre, mais laisse également le temps au touriste de connaître en profondeur le pays d'accueil et, ainsi, il adoptera des comportements plus responsables. Enfin, la diversité des activités touristiques, activités éducatives, peut se traduire par une plus longue durée d'usage des infrastructures touristiques permettant de les rentabiliser davantage et de contribuer ainsi à un développement local plus équilibré (problème des saisonnalités).

En revanche, l'artisanat et l'agro-alimentaire adressent de façon plus importante aux consommateurs locaux, ce qui peut être, d'ailleurs, un gage de leur authenticité. Avant d'aborder les mécanismes d'intégration et d'organisation de ces marchés spécifiques, nous allons nous intéresser aux conditions de production de ces spécificités locales (ou intégrées à la fois des dimensions culturelles et naturelles). On notera que ces dimensions environnementales et sociales sont dans la majorité des cas des externalités (effets externes positifs ou biens publics) :

3. mettre en place des mécanismes de bonne gouvernance locale permettant d'apporter les productions particulières sur des stratégies de développement durable du territoire, y compris par l'ensemble des acteurs.

Tous les territoires sont concernés à des degrés divers par de telles approches. Les territoires les plus vulnérables, ou ceux qui sont les dépositaires de caractéristiques originales, pourraient en tirer des avantages. On peut citer en premier lieu les zones de montagne, les îles et les zones côtières ainsi que les centres de biodiversité.

Les approches peuvent s'appliquer dans les pays du sud qui sont souvent largement tributaires de l'exportation de leurs ressources naturelles. La commercialisation de produits plus élaborés et un apport de valeur ajoutée diminuent l'impact de l'exploitation des ressources de ces pays tout en augmentant les revenus qu'ils en tirent.

Comment mettre en œuvre ces approches ?

Comme on l'a mentionné plus haut, les échanges économiques des biens à forte identité culturelle concernent avant tout les populations locales. Mais la commercialisation de ces biens sur le marché mondial peut apporter des revenus essentiels au développement de ces zones. Nous allons donc explorer la façon dont nous pourrions envisager leurs relations avec la mondialisation économique.

En général, la mondialisation économique est défavorable car elle entraîne une uniformisation des modes de production et de consommation. Les grandes sociétés de production et de distribution imposent souvent l'abrogation de réglementations, des organisations internationales et des grands groupes industriels. Il s'agit donc de rechercher des mécanismes permettant des consommations durables tout en évitant d'entraîner des barrières commerciales déguisées.

La valorisation des produits et des services à forte identité locale permet de préserver les diversités culturelles et écologiques dans une perspective de protection de ressources fragiles et de production.

Figure 1
Les relations entre les productions à caractère culturel et le développement local

Productions locales

La durabilité de l'exploitation de ces ressources patrimoniales devrait répondre à trois conditions :

1. préserver les conditions de leur renouvellement, c'est-à-dire réduire l'impact de leur exploitation et promouvoir un niveau suffisant de leur production ;

2. partager de façon équitable les revenus entre les acteurs du territoire (ou entre les producteurs de caractéristiques culturelles et naturelles) entre-

Les approches réglementaires peuvent être utilisées par les pays mais, souvent unilatérales, elles peuvent être mises en cause auprès de l'Organisation mondiale du commerce (OMC) si elles apparaissent comme des barrières commerciales déguisées. Beaucoup de mesures réglementaires ou financières d'accompagnement sont néanmoins possibles au niveau local sans qu'elles aient une influence directe sur le commerce international : aménagements des sols, règlements d'urbanisme, normes de construction, infrastructures locales etc.

De même, les contrats sur les ressources et les redevances sur l'usage des espaces naturels peuvent être un moyen de rapprocher les coûts des ressources du coût véritable des biens et services mais ces coûts et redevances ne sont pas admises de la même façon dans tous les pays et pourraient donc induire des distorsions.

Un mécanisme d'étiquetage/labélisation «développement durable»

Pour préserver, renforcer et mettre en valeur les biens publics que sont les caractéristiques sociales, culturelles et écologiques, il convient que le consommateur puisse les valoriser lors de ses achats. Or, si le consommateur local connaît bien les caractéristiques et les enjeux par la sensibilisation et l'information, ce n'est pas le cas du consommateur distant qui achète le produit sur un marché plus impersonnel. Il s'agit là du problème d'information. Si l'on admet le «théorème du prix», il faut alors que le prix soit juste, c'est-à-dire que le consommateur paie le coût total du produit, y compris les externalités positives générées par le producteur. Si l'on admet que le consommateur est prêt à payer plus cher un produit qui respecte l'environnement et le développement durable du territoire, il faut alors que le consommateur puisse identifier ces produits. Il faut donc mettre en place un système de labellisation qui garantisse le respect de ces critères. Ce système doit être crédible, transparent et peu coûteux.

L'information sur les produits peut aussi utiliser le réseau Internet. En effet, le réseau peut permettre à un consommateur d'avoir des informations très précises sur les modes de production. Des groupes de consommateurs pourraient se constituer au niveau mondial pour consommer des produits locaux en fonction de leurs affinités, images, histoires – et communiquer avec les producteurs. Cette interactivité pourrait raccourcir le circuit commercial et donc augmenter la valeur ajoutée à l'étape de la production.

Définir le concept de terroir

Ce concept, largement utilisé dans la langue française, n'a pas d'équivalent dans d'autres langues[6].

Encadré 2
Une définition du terroir

Définition de la Commission Française du Développement Durable :

«Un terroir est une entité territoriale dont les valeurs patrimoniales sont le fruit de relations complexes et de longue durée entre des caractéristiques culturelles, sociales, écologiques et économiques. A l'opposé des espaces naturels où l'influence humaine est faible, les terroirs dépendent d'une relation particulière entre les sociétés humaines et leur milieux naturel qui a façonné le paysage. Considéré, à un point de vue matériel, il préserve la biodiversité, les diversités sociales et culturelles, en conformité avec les objectifs de développement durable.»

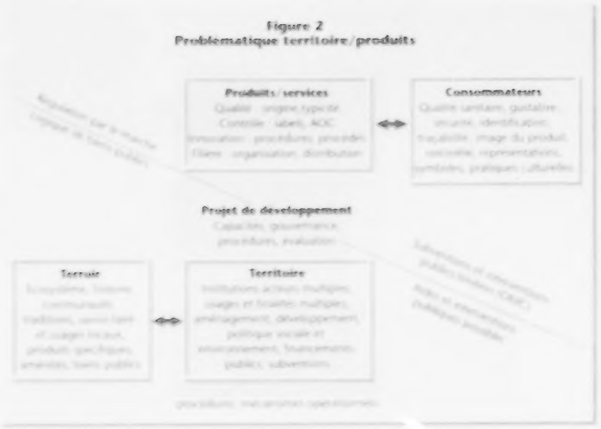
Dans ce contexte, les différents échelons locaux (bassin de production, région, pays) doivent être en mesure d'agir et de s'engager, et les producteurs spécifiques, qui construisent des biens publics et produisent des attributs pour un large ensemble de parties concernées. Le terme de « produits du terroir » est un nom commun. Nous proposons de le donner à un système opérationnel qui se rapprocherait des mécanismes d'Appellation d'Origine Contrôlée qui couvrent des vins, des fromages et certains produits alimentaires[7].

La loi française du 2 juillet 1990 a donné de l'AOC une définition précise : *«constitue une appellation d'origine la dénomination d'un pays, d'une région, d'une localité servant à désigner un produit qui en est originaire et dont la qualité ou les caractères sont dus au milieu géographique comprenant des facteurs naturels et des facteurs humains.»* La réglementation communautaire de 1992 créant l'AOP (appellation d'origine protégée) a ajouté que la production, la transformation et l'élaboration du produit doivent avoir lieu dans l'aire géographique délimitée. Pour bénéficier de l'AOC, les produits doivent répondre à cette définition, posséder une notoriété dûment établie et faire l'objet d'une procédure d'agrément qui garantit le respect des disciplines de production. Dans ce concept, la notion d'origine recouvre d'abord une aire géographique, entendue comme le sol, le sous-sol et le climat environnant. C'est l'élément essentiel sur lequel repose tout le système.

Les choix des consommateurs

Les consommateurs, notamment de biens alimentaires, recherchent une garantie de qualité gustative et sanitaire, de sécurité alimentaire, qui peuvent apporter des informations d'identification (traçabilité) et de traçabilité. L'image du produit et sa notoriété s'appuient sur des représentations symboliques très liées à des pratiques culturelles. La consommation est donc de nature à la fois entre le consommateur et le produit du terroir. La **figure 2** trace la problématique. On y retrouve le **terroir** et le **consommateur**. Dès que l'on quitte le niveau local, cette rencontre ne peut plus être intervenue, mais elle doit rentrer dans un cadre de procédures et de mécanismes opérationnels et institutionnels, une fois apparaître deux champs nouveaux : le **territoire** considéré ici comme espace politique et institutionnel, et les **produits et ser-**

Figure 2
Problématique territoire/produits



vices régis par des mécanismes économiques, mais aussi sociaux et culturels.

Une logique de développement durable implique que cette procédure s'inscrive dans une logique de projet de développement du territoire, c'est-à-dire de bonne gouvernance, de renforcement des capacités des parties intéressées, de procédures de négociation et d'évaluation du type Agenda 21 local. Le renforcement des capacités concerne au premier chef les filières produits qui devraient pouvoir gérer leurs spécificités et valoriser leurs caractéristiques par un label ou un étiquetage volontaire « *produit du terroir* ». Le cadre juridique et institutionnel peut combiner à différentes solutions labels, marques, étiquetage... selon que l'on fait jouer un rôle relatif différent aux pouvoirs publics et au secteur privé, mais les éléments des problématiques restent les mêmes. Dans le cas de marques, il convient que les pouvoirs publics protègent le consommateur de publicités mensongères.

Conclusion

Si l'on veut permettre au consommateur de consommer des produits et des services du *terroir*, il faut donc mettre en place des mécanismes permettant d'identifier les caractéristiques et établir des synergies entre l'action des collectivités territoriales qui ont en charge le développement local et les filières économiques de production et de distribution.

Mais agir sur l'offre ne suffit pas : il faut aussi promouvoir la demande en valorisant aux yeux des consommateurs des modes de consommation et de style de vie plus enrichissants sur le plan du développement personnel. **En consommant de la diversité on accroît son identité personnelle.** Cette diversité, qui favorise le développement humain, est une composante essentielle du développement durable.

Notes

1. OCDE, *L'enseignement et l'apprentissage pour une consommation durable*. Direction de l'Environnement de l'OCDE, Centre pour la recherche et l'innovation dans l'enseignement. Paris, 1998.

2. 324, p5. Commission du développement durable. Projet de résolution dont la Commission a recommandé l'adoption au Conseil économique et social. Rapport sur les travaux de la septième session (9 - 30 avril 1999). Conseil Économique et Social. Documents officiels, 1999, supplément n° E/1999/29 E/CN.17/1999/29 (http://www.agora21.org/cdd/7/cod/7sup.pdf).

3. On pourrait proposer au niveau international l'emploi sans altération d'termes français « terroir ». Voir « Les enjeux de l'utilisation en langue française sur le développement durable », Christian Brodhag, Université d'Été Francophone du développement durable et systèmes d'information, Saint-Etienne, France, 5 - 9 juillet 1999 (http://www.agora21.org/ecrire/ete99/Christian-Brodhag.html).

4. http://www.agora21.org/ecrire/fr/dossier/appel/welcome.html.

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Le bruit aujourd'hui

Le bruit est un « phénomène acoustique produisant une sensation auditive considérée comme désagréable ou gênante ». Si le phénomène physique est facile à mesurer, son aspect psychophysiologique ne peut être quant à lui objectivement quantifié.

Le bruit est un mélange de sons qui se caractérise

par sa fréquence

Faisons une expérience : si on appuie sur l'extrémité libre d'une règle posée sur le rebord d'une table, elle vibre et émet un son. Celui-ci devient plus aigu si on raccourcit le bout libre de la règle.

Le nombre des vibrations par seconde s'appelle la fréquence, son unité est le Hertz (Hz).

Si le domaine des fréquences est infini, l'oreille humaine ne les perçoit pas toutes.

Notre champ auditif varie globalement entre 20 et 20 000 Hz.

En dessous de 20 Hz on appelle ces fréquences les infrasons. Ils sont perçus par certains animaux, comme par exemple les éléphants.

Au dessus de 20 000 Hz ce sont les ultrasons qui sont perçus par les chauves-souris, les dauphins, ou encore les chiens que l'on peut dresser avec des sifflets à ultrasons.

par son niveau

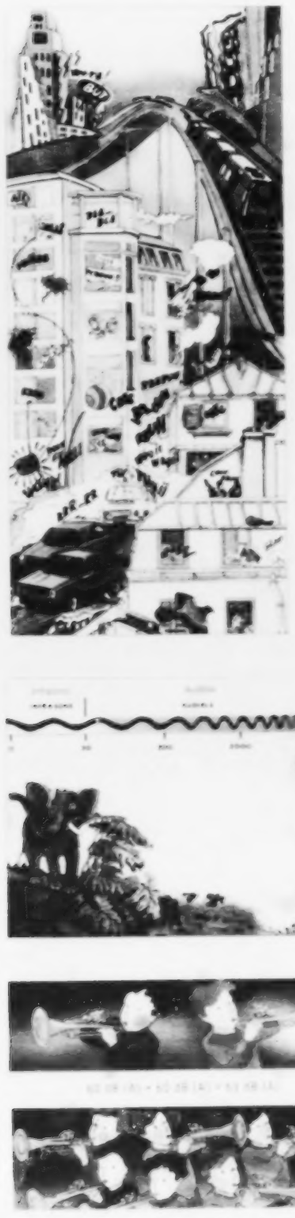
La vibration de l'air exerce une pression de plus en plus importante sur notre oreille au fur et à mesure que le bruit augmente.

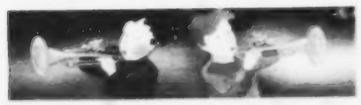
Le rapport entre la pression acoustique maximale que notre oreille peut supporter sans douleur et la pression de référence qui représente le seuil d'audibilité est considérable : de l'ordre d'un million.

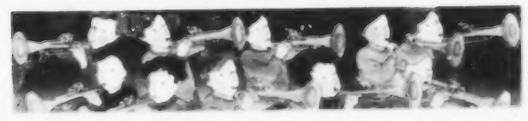
Pour exprimer par des nombres simples l'ensemble des phénomènes compris entre ces deux seuils, on a été amené à utiliser une échelle logarithmique.

Le niveau sonore s'exprime en décibels, dB. L'oreille n'a pas la même sensibilité suivant les différentes fréquences : elle est plus performante dans les fréquences médiums. Pour traduire ce phénomène, on utilise le dB (A) qui corrige les niveaux sonores par un filtre.

Pour fixer les idées, on peut dire qu'une variation de 3 dB (A) est facilement identifiable et correspond au doublement des sources sonores, une variation de 10 dB (A) est déjà considérable car elle correspond à la multiplication par 10 d'une même source sonore ; 20 dB (A) d'écart donnent une sensation de bruit ou bien effet de masque.







Noise today

Noise is an "acoustic phenomenon that produces an unpleasant or irritating auditory sensation." It is fairly simple to measure noise in terms of the laws of physics, but its psychophysiological effects cannot be quantified so easily.

Noise is a mixture of sounds characterized by

frequency

Frequency can be thought of as the number of air vibrations per second, measured in hertz (Hz).

The range of potential frequencies is infinite, but not all of them can be heard. The range perceptible to humans is approximately 20 to 20 000 Hz. The human ear is not equally sensitive to different frequencies: it is best at distinguishing sounds in the middle range.

Infrasonic frequencies (those below 20 Hz) can be heard by some animals, e.g. elephants.

Ultrasonic frequencies (over 20 000 Hz) can also be heard by certain animals including bats, dolphins and dogs.

intensity

The pressure on our ears increases with sound's intensity. The maximum acoustic pressure the ears can tolerate without pain is about a million times greater than the pressure at the lower threshold of audibility.

The relative loudness of sounds is expressed in logarithmic units called decibels (dB). A variation of 3 dB, which corresponds to a doubling of sound energy, is easily distinguished. A 10 dB variation corresponds to a ten-fold increase; 20 dB to a 100-fold increase, etc.

Echelle du bruit
Noise scale

L'oreille

Notre appareil auditif se divise en trois parties :

L'oreille externe, formée du pavillon qui collecte les ondes sonores, et du conduit auditif fermé par le tympan, petite membrane vibrant comme la peau d'un tambour.

L'oreille moyenne, cavité remplie d'air comprenant trois osselets (le marteau, l'enclume et l'étrier) qui transmettent les vibrations du tympan à l'oreille interne.

L'oreille interne, remplie de liquide, qui transmet les vibrations aux cellules auditives ciliées du limaçon. Celles-ci transforment les vibrations en influx nerveux qui se propage le long du nerf auditif jusqu'au cerveau qui les reçoit et les analyse.

The ear

Our ears have three distinguishable parts:

The **outer ear** consists of the pinna and the auditory canal, which transmits sound waves to the tympanic membrane (ear drum). This membrane vibrates like the head of a drum.

The **middle ear** is an air filled space containing the three auditory ossicles (the hammer, anvil and stirrup), tiny bones that amplify the vibrations and conduct them to the inner ear.

In the labyrinthine **inner ear**, which is filled with liquid, the vibrations are converted by the hair cells of the cochlea into nerve impulses. These are carried by the auditory nerve to the brain, which receives and analyses them.

Le bruit détruit l'oreille

En dehors de toute maladie ou défaut d'audition, la douleur apparaît à 120 dB (A).

La fatigue auditive ou surdité passagère apparaît bien en dessous de ce seuil. Par exemple, à la suite d'un concert fortement sonorisé, l'impression d'entendre moins bien est très vertes ; nos oreilles sifflent, on fait répéter souvent des mots, on parle plus fort.

Un temps de récupération dans une ambiance calme est alors nécessaire pour retablir une audition normale. Cette fatigue auditive est considérée comme un signal d'alarme.

Si l'expérience se renouvelle trop souvent, ou si vous devez travailler toutes les heures dans une ambiance sonore dépassant 85 dB (A), la surdité s'installe : c'est la surdité progressive.

Il existe aussi la surdité traumatique due à une exposition courte à un niveau sonore très élevé (explosion).

Il faut savoir que ces surdités sont provoquées par la destruction définitive d'un certain nombre de cellules ciliées.

Ceci se traduit par une mauvaise compréhension des signaux sonores qui nous parviennent. La surdité ne veut pas dire ne plus rien entendre mais ne plus comprendre ce que l'on entend (on comprend par exemple "bicicletta" au lieu de bicyclette). Un appareillage n'améliore pas ou très peu la situation.

Des études récentes montrent que beaucoup de jeunes présentent aussi une perte d'audition provoquée par l'accumulation d'activités trop bruyantes : baladeurs, chaînes hi-fi, concerts rock, discothèques, motos, tirs ont à 17 ans des oreilles de personnes âgées pour lesquelles cette perte d'audition est normale.

Le bruit agit également sur notre santé

Les effets immediats

Augmentation du rythme des battements du cœur et de la tension artérielle, diminution de l'attention, de la capacité de mémorisation, agressivité, troubles du champ visuel, troubles gastro-intestinaux. Ces effets sont passagers.

Les effets à long terme

Fatigue physique et nerveuse, insomnie, troubles hypertension artérielle chronique, anxiété, comportement dépressif ou agressif... Ces conséquences liées au stress sont plus durables mais, dans la plupart des cas, elles n'aboutissent pas à des lésions irréversibles.

L'organisme ne s'habitue pas au bruit

Les personnes soumises à des bruits continuels (voisinage d'autoroutes ou d'aéroduromes, par exemple) peuvent s'être habituées aux nuisances sonores. Toutefois, des électroencéphalogrammes et encéphalogrammes pratiqués au cours de leur sommeil montrent que l'organisme continue à réagir, il est anormalement perturbé et moins réparateur.

Le bruit au travail : un risque majeur

En France, un salarié sur trois et même un ouvrier sur deux sont soumis à des bruits trop importants sur leur lieu de travail.

Le bruit diminue la concentration et les performances

Des études ont montré que des travailleurs exposés à des niveaux sonores supérieurs à 95 dB (A) sont extrêmement plus d'accidents du travail que les travailleurs exposés à moins de 90 dB (A).

Par ailleurs, la surdité est une des premières maladies professionnelles et coûte cher à l'entreprise (cotisations

Noise damages the ear

Except in the case of illness or hearing loss, noise becomes painful at 120 dB (A).

Auditory fatigue and temporary deafness maybe be experienced well below this level. For example, after a heavily amplified concert our ears ring, words have to be repeated, and we speak more loudly. Some recovery time in a quiet place is required before we can hear normally again.

Auditory fatigue is a warning sign. If the experience that produced it occurs too often, or if it is necessary to work where noise levels habitually exceed 85 dB, progressive (and permanent) hearing loss begins to take place.

Brief exposure to very loud noise, such as an explosion, can cause traumatic hearing loss.

Both types of hearing loss result from destruction of some of the hair cells in the inner ear. Loss of hearing is manifested in poor understanding of sounds. Deafness in this context does not mean inability to hear – it means inability to understand what we hear (e.g. thinking someone said "bite" when they really said "bike"). A hearing aid is not much help in such cases.

Recent studies have shown that many young people suffer hearing loss following too much exposure to, for example, portable radios, stereo systems, rock concerts, discos, motorbikes or gunshots. At the age of 17, they may already have the ears of an older person in whom such loss of hearing would be normal.

Noise also affects our health

Immediate effects

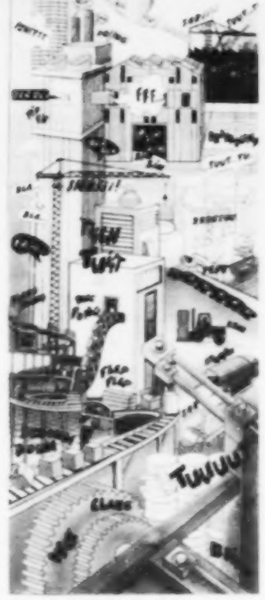
Increased heart rate and blood pressure, shorter attention span and memory loss, anxiety, a reduced field of vision, gastro-intestinal problems. These effects are transitory.

Long term effects

Physical and mental fatigue, insomnia, hostility, chronic hypertension (high blood pressure), anxiety, depressive or aggressive behaviour. These stress related effects are longer lasting, but in most cases they do not result in irreversible damage.

The body does not get used to noise

People subjected to continual noise – e.g. those living near busy highways or airports – often believe they have become used to it. However, electroencephalograms and electroencephalograms carried out while they are asleep show that the body continues to react, leading to disturbed and less restorative sleep.



Workplace noise: a serious risk

In France, one out of every three salaried employees and half of all manual labourers are subjected to excessive noise at the workplace.

Noise affects concentration and job performance

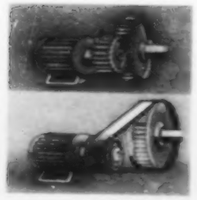
Workers exposed to noise above 95dB are considerably more likely to be involved in job-related accidents than those exposed to below 90 dB.

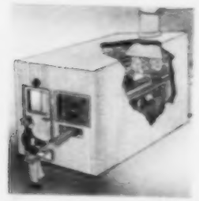
Hearing loss is a major job-related disability that costs businesses between 600,000 and 1 million francs (approximately US$85 000 to 140,000) per individual.

(600 000 et 1 million de trains par semaine déclarée).

A l'école, le bruit peut entraîner des retards dans l'acquisition des connaissances, les explications des enseignants étant masquées par le bruit environnant. Chez les enfants qui prennent leurs repas à la cantine, où les niveaux sonores peuvent atteindre ceux que l'on rencontre dans une menuiserie industrielle, on constate alors des manifestations d'instabilité, de fatigue et d'agitation psychomotrice.

Pour les travailleurs tout comme pour les écoliers, cet état de fatigue physique et nerveuse persiste en dehors du travail et perturbe, également, les relations familiales et sociales.





Les solutions

Réduire le bruit à la source

Les constructeurs font des efforts constants pour réduire le bruit des machines. De plus, une réglementation européenne oblige les fabricants à apposer sur les machines une étiquette indiquant le niveau sonore.

Réduire le bruit à la transmission

Le capotage : il se présente comme une boîte entourant la machine.

L'écran : il fait obstacle à la propagation directe du son.

Le traitement acoustique des locaux : la pose de matériaux absorbants sur les parois et le plafond permet de réduire la réverbération des bruits.

Réduire le bruit à la réception

Les protecteurs individuels : casques ou bouchons doivent être portés en permanence pour être efficaces.

Les cabines : il s'agit de locaux insonorisés à l'intérieur de l'usine ou de l'atelier.

A l'école

En dehors de la pose de matériaux absorbants au plafond et sur les murs, des solutions simples peuvent améliorer le confort acoustique : embouts de feutre ou de caoutchouc sous les pieds des chaises et des tables, toiles cirées sous les assiettes, chemisettes dans les cantines...

Extraits tirés de la brochure Le bruit aujourd'hui *publiée par le Centre d'information et de documentation sur le bruit (CIDB), 12-14, rue Jules Bourdais, 75017 Paris, France. Tél. : +33 1 47 64 64 64. Site internet : www.cidb.org. Minitel : 36 15 BRUIT (2,23 F la mn).*

At school, it is more difficult to learn in a noisy environment where teachers cannot be understood. Children who eat in the school cafeteria, where noise levels can rival those of a woodworking factory, may show signs of instability, fatigue and psycho-motor disturbance.

For workers as well as students, this physical and mental fatigue continues outside the workplace and can disturb family and social relationships.

Solutions

Reduce noise at its source

Manufacturers are making continual efforts to reduce the noise their machines make. In addition, a European regulation requires machines to be labelled to indicate the level of noise they produce.

Reduce noise transmission

Machines can be isolated as if they were enclosed in a box.

Screens can block direct sound transmission.

Acoustic treatment of the premises includes installation of sound-absorbing materials on partitions and ceilings to decrease reverberations.

Reduce noise reception

Protective earmuffs or plugs should be worn at all times to be effective. Soundproof areas can be partitioned off within a factory or workshop.

At school

Besides covering ceilings and walls with sound-absorbing materials, simple solutions can improve acoustic conditions, e.g. felt or rubber tips on chair and table legs, oilcloth or similar material under plates, and partitions in the cafeteria.

Extracts from the brochure Le bruit aujourd'hui *published by the Centre d'information et de documentation sur le bruit (CIDB), 12-14, rue Jules Bourdais, 75017 Paris, France. Tel. +33 1 47 64 64 64. Internet: www.cidb.org*

World News

BBC's *Earth Report* returns with UNEP support

The BBC World Service's *Earth Report* returns on international television for its fourth year. There will be 52 programmes in 2000, beginning in January. *Earth Report* is produced with financial support from UNEP and the World Wide Fund for Nature. Broadcast nine times per week, it reaches 180 countries. A wide range of topics are covered, from global warming to the effects of water shortages on peace in the Middle East.

"We have received a bigger pushing for *Earth Report* than for all our films since 1984," says Robert Lamb, director of the Television Trust for the Environment (TVE) and series editor. "So you might say the start-up of the fourth series is by popular demand." He adds that "contrary to the received wisdom in the television industry, we have shown that there is strong public interest throughout the world in serious environmental coverage."

Some of the first stories to air have been "Hole in the Sky", an industry investigation in a possible cause of falling sperm counts in many countries; "Danube Blues", the small story of the ecological impact of NATO bombing on Yugoslavia; "A Steppe Forward", which describes efforts to preserve the grasslands and way of life of Mongolia's nomads; and "Extinction Impossible", which investigates the evidence that global warming exists and discusses the continuing resistance to this evidence by sceptics in the United States and elsewhere.

Four programmes in 2000 will be European Special. One programme each month will focus on projects sustainable development solutions. Choice "Hands On" reports successful efforts under way in sustainable farming, building, mining, health, transport, energy, recycling, agroforestry and innovative production methods. Projects presented on "Hands On" are selected for their affordability and replicability, so that viewers and listeners can apply the featured best practices and entrepreneurs will be encouraged to undertake projects that generate income as well as safeguarding the environment. "Hands On" is also linked to Intermediate Technology, a UK-based NGO that deals with specialist requests for information.

The new series has its own web site, www.environment.unep, providing access to text, transcripts and customized quicktime video streaming that makes it possible for viewers to preview forthcoming programmes. The site also has weekly and archive features, linked to the information resources of the OneWorld Net portal, and an automated on-line discussion room, "Voices". An on-line listings database gives access to environment related segments on everything from gm oilseed beans to smokestacks, without the often prohibitively expensive cost of commercial archives.

Television Trust for the Environment is an editorially independent, non-profit organization co-founded by UNEP in 1984. TVE receives funding from UNEP and the World Wide Fund for Nature, as well as other backers including the European Commission and the Global Environment Facility.

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Fifth Conference of the Parties to the Kyoto Protocol

Government representatives from 166 countries, including over 60 environment ministers, attended a two-week UN-sponsored conference on the Kyoto Protocol in Bonn in November 1999. The Fifth Session of the Conference of the Parties (COP-5) addressed some of the Protocol's remaining unfinished details and established an aggressive timetable for completing it.

Created in 1997 during a UN world climate conference in Kyoto, the Protocol requires industrialized countries to cut their emissions of six greenhouse gases to 5% below the 1990 level by 2012. It will come into force, and become legally binding, when it has been ratified by a minimum of 55 countries (including developed countries accounting for at least 55% of developed country emissions). So far, only 16 countries – all from the developing world – have ratified the Protocol. Eighty-three countries and the European Union have signed but not yet ratified it.

Completion of the Protocol by the time of COP-6 would set the stage for early ratification by governments. However, many details are still outstanding, including rules and mechanisms for measuring and implementing emissions cuts. Controversy over some of the proposals has hampered completion. German Environment Minister Juergen Trittin, who hosted COP-5, has argued that the Protocol in its current form allows industrial countries too many loopholes through which they can escape their emissions reduction commitments. He and some other European ministers, as well as representatives of some developing countries, are opposed to industrialized countries subsidizing reductions of greenhouse gas emissions in developing countries without reducing their own. COP-6 has been set for 13-24 November 2000 in The Hague.

A number of important substantive issues were settled during COP-5, including agreement on improving the rigour of national reports from industrialized countries and strengthening the guidelines for measuring these greenhouse gas emissions. The delegates also took action to improve the delivery and consideration of national communications by developing countries. They established the process that negotiations will follow over the coming twelve months to finalize regimes for non-compliance, capacity building, emissions trading, joint implementation, and a Clean Development Mechanism. The discussions taken will also help determine how to address adverse effects of implementation on developing countries, and how to account for net emissions from forests, which can absorb carbon.

Klaus Toepfer, UNEP's Executive Director, praised the political commitment expressed by the over 60 ministers present in Bonn. He predicted that the fate of the Kyoto Protocol will be determined over the next twelve months, and that ratification by 2002 is still achievable. Toepfer also expressed his view that the regions that will suffer most from climate change impacts are those where the poorest of the poor live. "Fighting poverty and climate change will be our highest priority," he said. "At the same time, it is also imperative to change consumption patterns, transport structures, and lifestyles in the industrialized world." Toepfer stressed that the poverty of billions of the world's people, combined with the extremely high consumption levels of millions living in the industrialized world, are the two major causes of climate change and other environmental degradations.

The urgent need for action on climate change is illustrated in UNEP's *Global Environment Outlook 2000* (0-233-2000), an overview of the state of the world's environment at the beginning of the new millennium (see *Industry and Environment* Vol. 22 No. 2/3). According to GEO-2000, global concentrations of carbon dioxide reached a new high of nearly 24 billion tonnes in 1998, and continue to rise. The average annual increase over the past decade has been 1.5% or nearly 300 million tonnes a year. In order to reverse this growth and reduce the possibility of climate change, UNEP has called for immediate action by industrialized countries to stimulate higher energy efficiency and make greater use of renewable energy sources such as wind, solar and biomass.

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Study examines Kyoto Protocol's scientific and economic implications

A recent study finds that a strategy aimed at controlling greenhouse gases in general, not just carbon dioxide, could save over 60% of the cost of controlling CO_2 alone. The study, which appears in the 7 October 1999 issue of *Nature*, is the first to assess the Kyoto Protocol's economic, atmospheric, climatic and ecological effects. It was conducted by researchers from the Massachusetts Institute of Technology (MIT) and the Marine Biological Laboratory (MBL) at Woods Hole, Massachusetts.

John Reilly, the lead author, who is Associate Director for Research at the MIT Joint Program on the Science and Policy of Global Change, says that including gases other than CO_2 emissions from fossil fuels could greatly reduce the cost of meeting Kyoto Protocol commitments. "Economically efficient policies will be required that encourage reduction of these emissions – not an easy task, as reductions must come from sources as diverse as landfills, aluminum production, livestock, and electrical switchgear."

The researchers found that focusing only on carbon emissions from fossil fuels has resulted in estimates of the annual costs of meeting emissions standards in industrialized countries in 2010 that are over 20% too high. To balance this narrow view of the global warming threat, they took into account other processes such as absorption of atmospheric CO_2 by forests and oceans, non-CO_2 greenhouse gases, atmospheric interactions among greenhouse gases, climatic effects, the roles of smog-forming carbon monoxide and nitrogen oxides, and the cooling effect of aerosols.

According to the study, including gases other than CO_2 in the Kyoto Protocol could lead to greater reductions in the impact of greenhouse gases than would occur if only CO_2 emissions were reduced. Emissions reductions efforts aimed only at reducing CO_2 emissions were found to cost over 60% more than a broader effort to control emissions of other gases as well. Effects of the failure to consider non-CO_2 gases differ from region to region, and could therefore also influence the pattern of emissions trading.

The study also found that extending to 2100 the reductions currently called for by the Kyoto Protocol would reduce predicted warming by only about 1°C. It identified flaws in the way gases are compared to each other under the Protocol, which establishes CO_2 equivalents that define each gas's Global Warming Potential (GWP) relative to CO_2. The GWP approach allows comparison of the warming effects of different greenhouse gases. It is used to calculate credits for reductions in emissions of these gases against a CO_2 emissions cap. The study concluded that using the GWP measure to settle mitigation climate change considerably less bit equivalent CO_2 emissions than would be the case if multi-gas strategies were used and emissions cut enough to stabilize the heating effects of these gases. Without more severe emissions reductions, there would be little difference between the two strategies in climate and ecosystem effects. Study co-author Ronald Prinn, head of MIT's Department of Earth, Atmospheric, and Planetary Sciences and co-director of the Joint Program, believes this demonstrates significant weakness in the GWP approach and fails to allow an impartial assessment of all possible climate-change reduction strategies. He advocates an integrated systems approach instead.

The researchers note that while many nations' farmers initiate as regard to forestry using emissions-reduction scenarios, taking non-CO_2 gases into account could contribute significantly to climate-change mitigation.

The study, "Multi-Gas Assessment of the Kyoto Protocol," is available online at web.mit.edu/globalchange/www/rpt45.html or from Nature Reprints & Permissions, Nature Publishing Group, 345 Park Ave South, New York, NY 10016-1787, USA. Tel: +1 212 726 9200. Fax: +1 212 696 9555. E-mail: reprints@nature.com

For more information, contact: Joint Program on the Science and Policy of Global Change, 77 Massachusetts Avenue, MIT E40-271, Cambridge, Massachusetts 02139-4307, USA. Tel: +1 617 253 7492. Fax: +1 617 253 9845. E-mail: globalchange@mit.edu. Internet: web.mit.edu/globalchange/www/. ◆

Industry Updates

ISO 14001-certified companies in Thailand

ISO 14001 (the International Organization for Standardization's environmental management system standard) was introduced in Thailand in 1996. A recent survey shows that since then, there has been a continuous increase in the number of companies and industries applying for certification. However, the number that have achieved certification – about 127 in March 1999 – is still a fraction of those that emit pollutants and degrade natural resources. The survey, conducted by the Thailand Environment Institute with the Department of Industrial Works and the Thai Industrial Standards Institute, was conducted to assess the benefits companies have received from ISO 14001 certification and the obstacles they face. The results are intended to help companies that are considering certification, as well as to identify incentives that the government can use to encourage more companies to do so.

The survey found that companies pursued ISO 14001 certification for three main reasons: to be consistent with corporate policy (many of the companies are multinational corporations), to demonstrate social responsibility, and to improve their corporate image. Among the benefits cited were improved corporate image and working environment, costs savings, and lower environmental impacts. Survey respondents also identified ways to overcome barriers to ISO 14001 implementation, including identifying environmental impacts and emissions, raising awareness among company personnel, defining environmental goals, and modifying processes and procedures.

The survey results have been released in Thai (as a briefs business). Available from the Thailand Environment Institute (see below), this publication includes individual company data from 45 companies that participated in the survey, as well as case studies from several companies in a variety of

manufacturing, retail and high-technology sectors.

For more information, contact: Thailand Environment Institute, ISO 14000 Project, 19/27 Soi Sukhumvit 49, Sukhumvit 62, Prakanong, Bangkok 10260, Thailand. Tel: +66 2 714 0350. Fax: +66 2 741 0361. Internet: www.tei.or.th ◆

Irish detergent makers agree to eliminate phosphates

The industry group representing Ireland's detergent makers has agreed to eliminate phosphates from almost all detergent products by the end of 2002.

The agreement between the Irish Detergents and Allied Products Association (IDAPA) and the Irish government was made in order to limit pollution of the country's lakes and rivers. It will be implemented in three stages: 55% of IDAPA products will be phosphate-free by the middle of 2000, 90% by the end of 2001, and 95% by the end of 2002. Phosphates can cause eutrophication, diminishing the amount of dissolved oxygen in the waters which is critical for fish and other marine life.

The accord is part of the government's strategy to make significant reductions in water pollution by 2006. IDAPA estimates that 8% of phosphate pollutants in Irish lakes and rivers comes from household detergents. Since its members have a 90% market share for detergents in Ireland, the agreement has the potential to cut phosphate-related pollution. However, over half of phosphate run-off comes from agricultural applications such as fertilizers. Irish Environment Minister Noel Dempsey acknowledged that efforts to reduce water pollution must do more to reduce outflows of agricultural sewage. He also said he would vigorously pursue the remaining manufacturers who are not IDAPA members, with a view to obtaining similar commitments from them.

For more information, contact: Irish Department of the Environment and Local Government. Tel: +353 1 888 2000. Internet: www.environ.ie ◆

A briefing on implementation of the ISO 14000 Environmental Management System in China

Zhu, Xingxiang (Deputy Director General, Department of Science, Technology and Standards, State Environmental Protection Administration)

China, which is a member of the International Organization for Standardization (ISO), participates actively in the work of its Technical Committee 207 (ISO/TC 207). In order to conduct research, and to introduce and implement the ISO 14000 series of standards in China, the State Environmental Protection Administration (SEPA, formerly the NEPA) has established the China Center for Environmental Management System, or CCEMS. In November 1996, jointly with UNEP's Division of Technology, Industry and Economics, we successfully held a seminar on ISO 14000 and Sustainable Development in Beijing. The seminar gave Chinese enterprises opportunities to understand the development of ISO 14000, enhanced cooperation in the field of ISO 14000 between China and other countries, and promoted ISO 14000 certification. CCEMS was entr[illegible]by UNEP DTIE with translating and publishing the EM[illegible]ercising Course Kit. UNEP DTIE, together with CCEMS, held a training course in Shanghai in 1997. All these cooperative activities are of great help to Chinese enterprises in implementing ISO 14000.

Since July 1996, SEPA has selected about 200 enterprises to start piloting EMS certification, with the aim of promoting implementation of existing EMS and observing the changes ISO 14000 would bring. The results of a three-year trial programme have shown that the certified enterprises have benefited greatly from ISO 14000 implementation: for example, through effective control of pollutant emissions, reduced consumption of energy and resources, promotion of cleaner production, enhancement of staff's environmental awareness, and better compliance with national environmental laws and regulations. The enterprises have attached more importance to recycling operations and the environmental design of products. As you know, China has many enterprises with old equipment, poor management, and considerable waste of energy and resources. Such enterprises will contribute greatly to society if they implement ISO 14000. For example, management of the Changling Refrigerator Plant has improved since it adopted ISO 14000. The Shanghai Baoshan Iron and Steel Group of Companies saved 320 million yuan through comprehensive use of lower-temperature gas.

SEPA promotes cleaner production and ISO 14000, not only in enterprises but also in major cities. It has recently begun to encourage some large and medium-sized cities to establish ISO 14000 model areas in their economic development or tourism zones; that is, to set up environmental management systems in areas. An increasing number of organizations attach importance to ISO 14000. So far, 120 enterprises have obtained ISO 14001 certificates. There are bright prospects for ISO 14000 certification in China.

To guarantee the impartiality and authority of ISO 14000 certification, China has actively conducted research on criteria for the certification and management system and gradually established a national accreditation system for EMS certification. Remarkable progress has been made after two years of effort.

In May 1997, with the approval of the State Council, the China Steering Committee for Environmental Management System Certification was established. Its role is to guide and manage implementation of the ISO 14000 series of standards. It consists of two subcommittees: the China Accreditation Committee for Environmental Management System Certification Bodies (CACEB) and the China Registration Committee for Environmental Auditors (CRCEA). CACEB is responsible for accrediting EMS certification bodies and CRCEA for certifying EMS auditors.

Since their foundation, CACEB and CRCEA have administered EMS certification activities in China. The China Steering Committee for Environmental Management Systems has guided and promoted EMS certification. The two subcommittees have formulated criteria for accreditation, auditor registration, training courses and relevant supervision, while accrediting certification bodies and registering auditors according to international practice.

So far, CACEB has accredited twelve certification bodies after rigorous assessment. CRCEA has registered 20 chief auditors, 82 auditors and 757 provisional auditors after examinations and held 68 training courses. China will develop policies to encourage more and more enterprises to establish ISO 14000 systems.

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UNEP Focus

Conference of the Parties to the Basel Convention focuses on waste minimization

The Fifth Conference of the Parties to the Basel Convention, meeting in December at the Basel (Switzerland) Convention Centre, adopted the Basel Declaration on Environmentally Sound Management.

The Declaration clearly recognizes the need to strengthen efforts for the active promotion and use of cleaner production technologies and processes, with the aim of preventing and minimizing hazardous and other wastes subject to the Basel Convention. The waste minimization focus will also be reflected in the UNEP DTIE Cleaner Production programme of activities.

In conjunction with the adoption of the Declaration, the Basel Convention's web site has been completely redesigned and expanded (see **Web Site Highlight**). The expanded site, at *www.basel.int*, contains information on the activities of the Secretariat of the Basel Convention, which administers the treaty. It includes pre-session documents for the Fifth Conference of the Parties in all UN languages.

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BASEL DECLARATION ON ENVIRONMENTALLY SOUND MANAGEMENT

We, the Ministers and other heads of delegation from the Parties to the Basel Convention and from other States,

Having met in Basel, Switzerland, from 6 to 10 December, on the occasion of the fifth meeting of the Conference of the Parties to the Basel Convention and the tenth anniversary of the adoption of the Basel Convention,

Concerned about the continuing risk of damage to the environment and of harmful effects on human health caused by the environmentally unsound management of hazardous wastes,

Recognizing that, notwithstanding the concerted efforts made during the first decade of the Basel Convention, hazardous waste generation has continued to grow at the global level and transboundary movements of hazardous wastes are still a matter for concern,

Further recognizing the importance of partnership with the private sector and non-governmental organizations,

Building on the achievements of the first decade of the Convention,

1. Assert a vision that the environmentally sound management of hazardous and other wastes is accessible to all Parties, emphasizing the minimization of such wastes and the strengthening of capacity-building;

2. Conclude that, having reviewed progress in the implementation and further development of the Basel Convention during its first decade, significant achievements have been made, such as the development and adoption of the control system for transboundary movements; the waste lists and model legislation; the adoption of the ban amendment; and the establishment of regional and subregional centres for training and technology transfer and also note with satisfaction that the number of Parties has greatly increased since the entry into force of the Convention;

3. Reaffirm the fundamental aims of the Basel Convention, namely, the reduction of transboundary movements of hazardous and other wastes subject to the Basel Convention, the prevention and minimization of their generation, the environmentally sound management of such wastes and the active promotion of the transfer and use of cleaner technologies;

4. Reiterate our commitment to sustainable development and full support for the implementation of the Rio Declaration, Agenda 21 and the programme for its further implementation adopted by the United Nations General Assembly at its nineteenth special session in 1997;

5. Undertake to make all possible efforts to ensure the universality of the Convention by promoting the ratification of or accession to the Convention and its amendments and by ensuring effective implementation of and compliance with its obligations;

6. Recognize the need to focus our activities within the next decade on specific actions to promote the implementation of the Convention and its amendments worldwide, at all levels, and, to this end, agree to enhance and strengthen our efforts and cooperation to achieve environmentally sound management in the following fields:

(a) Prevention, minimization, recycling, recovery and disposal of hazardous and other wastes subject to the Basel Convention, taking into account social, technological and economic concerns;

(b) Active promotion and use of cleaner technologies and production, with the aim of the prevention and minimization of hazardous and other wastes subject to the Basel Convention;

(c) Further reduction of transboundary movements of hazardous and other wastes subject to the Basel Convention, taking into account the need for efficient management, the principles of self-sufficiency and proximity and the priority requirement of recovery and recycling;

(d) Prevention and monitoring of illegal traffic;

(e) Improvement and promotion of institutional and technical capacity-building, as well as the development and transfer of environmentally sound technologies, especially for developing countries and countries with economies in transition;

(f) Further development of regional and subregional centres for training and technology transfer;

(g) Enhancement of information exchange, education and awareness-raising in all sectors of society;

(h) Cooperation and partnership at all levels between countries, public authorities, international organizations, the industry sector, non-governmental organizations and academic institutions;

(i) Development of mechanisms for compliance with and for the monitoring and effective implementation of the Convention and its amendments;

7. Support the development of pilot projects on state-of-the-art or best available technologies to demonstrate the environmentally sound management of hazardous wastes and their minimization, including those financed by public or private partnership, in selected countries or regions, taking into account the needs of small and medium-sized enterprises, and agree that these pilot projects will take into consideration issues related to the environmentally sound disposal of stockpiles of hazardous wastes;

8. Recognize the need for a sound financial basis for the effective implementation of these activities and for increased efforts to gain access to all sources of funding, including international financial institutions, and recognize, in addition, the need to develop strategies that will harness market forces to promote waste minimization and environmentally sound management and to provide opportunities for investment in this field;

9. Agree that decision V/33 of the Conference of the Parties constitutes our agenda for the next decade on environmentally sound management.

UNEP creates framework for cooperation with WTO

The third World Trade Organization ministerial meeting in Seattle in December took place amid street demonstrations that disrupted the meeting and forced cancellation of part of it. Much of the controversy focused on environmental issues, many delegates and observers calling the environmental implications of further trade liberalization the most critical issue to be addressed in the current environment and development debate. The trade and environment issue brought together some unlikely partners, such as US labour unions and environmentalists, who joined forces to fight against multinational corporations and international trade pacts, which they regard as a threat to workers and the environment world-wide.

UNEP Executive Director Klaus Töpfer, who attended the meeting, stressed the importance of environmental issues in the trade-environment debate. Calling for mutually supportive trade and environment policies, he said that "the new Millennium Round must succeed with regard to promoting sustainable development. It must succeed in helping the poorest of the poor in the world. And, it must succeed for the sake of the environment."

Töpfer condemned the violent incidents, carried out by a small minority, that marred the largely peaceful environmental protests, emphasizing that "furthering the environmental cause can never be achieved by violence. Around the world there is a long and valuable tradition of environmental protest groups stimulating political concern and action by peaceful means, but only through constructive dialogue can we ensure that an integrated approach to trade and environment policy-making is taken here in Seattle. The need to ensure that both trade and environmental policies are mutually supportive is more pressing today than ever before."

Building on UNEP's ongoing work in the environment and trade area, Töpfer stressed the importance of addressing five key environmental issues:

- the urgent need for capacity building, particularly in developing countries, to enable full integration of trade and environment in their national policy, and the effective participation of these countries in international trade and environment negotiations;
- early assessment of the environmental, social and economic impacts of trade liberalization policies and agreements at the national, regional and international levels, and their integration into policy-making at all levels;
- removal of environmentally harmful subsidies to create a win-win situation for trade and environment;
- examination of the origins, evolution and implementation of international environmental principles in multilateral environment agreements (MEAs) in line with the Rio Declaration, in particular principles 6, 7 and 15, which specifically highlight the importance of precautionary action.

Also, clarifying the relationship between trade measures in MEAs and WTO rules, and strengthening the monitoring, enforcement, compliance and dispute settlement mechanisms of MEAs;
- through the use of appropriate tools, enhancement of the dissemination of knowledge and information on products and services as a legitimate right for consumers, while avoiding the misuse of such tools for protectionist purposes.

The environment and trade issue was also a central theme of the WTO conference speech given by President Clinton, with whom Töpfer met during the event. Töpfer also met environment ministers and senior environment officials participating in the WTO meeting and addressed a number of relevant NGO side events, including trade and environment workshops organized by Greenpeace and the World Resources Institute.

Ultimately, governments were unable to decide on the scope and extent to which environmental considerations should be incorporated in future WTO negotiations. UNEP's position is that more needs to be done at the national and international level to assist countries in preparing themselves to address the environmental challenges of trade liberalization, through a coherent and integrated approach to trade and environment policy. "Further trade liberalization," said Töpfer, should be viewed not as an aim in itself, but as another tool by which we can achieve sustainable development. Trade liberalization should be used to maximize environmental objectives and promote the achievement of sustainable development."

To this end, UNEP assists developing countries in improving their capacity to protect their environment. The capacity-building work is one part of a recently agreed framework of co-operation between UNEP and WTO, announced by Töpfer and WTO Director-General Michael Moore at a joint press conference on the eve of the meeting. The framework, which builds on the ongoing work between the two organizations, emphasizes the importance of continued collaboration between the UNEP and WTO secretariats.

As a further contribution to its input to the environment and trade discussion, UNEP has released six reports that demonstrate how countries can take action to address trade-related environmental degradation (see **UNEP Publications**).

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$440 million to phase out developing countries' CFCs

Countries participating in the Conference of the Parties to the Montreal Protocol have agreed to US$440 million in new contributions to the Protocol's Multilateral Fund, which helps developing countries in their efforts to phase out chlorofluorocarbons (CFCs) and other ozone-depleting chemicals. Officials from 129 governments participated in the meeting in Beijing in December. The Montreal Protocol on Substances that Deplete the Ozone Layer requires developing countries to freeze their CFC and halon emissions at average 1995-97 levels during the twelve-month period that began on 1 July 1999. They must then cut back rapidly to 50% by the year 2005 and fully phase out by 2010. Developed countries phased out the use of these chemicals almost completely in 1996, although Russia and several others have experienced delays in meeting their deadlines.

China, which hosted the meeting, remains the world's largest producer and consumer of CFCs and halons. In March 1999, the Multilateral Fund's Executive Committee agreed to spend US$150 million to fund the complete closure of China's CFC production facilities over the next ten years. Meeting again in Beijing just before the Conference of the Parties, the Committee allocated US$82 million for India, the world's second largest developing-country producer and consumer of CFCs. The Fund has already spent some US$1 billion since 1991 to reduce production and use of CFCs and other harmful substances in over 110 developing countries. The funds are used to support the switch to more ozone-friendly technologies for refrigerators, air conditioners, and other consumer products and industrial processes.

"Phasing out CFCs in developing countries is by far the most important next step in protecting the ozone layer," said K. Madhava Sarma, Executive Secretary of the ozone treaties. "We need to maintain this momentum and build on it if we are to ensure the eventual recovery of the stratospheric ozone layer."

The meeting adopted new controls on the production of hydrochlorofluorocarbons (HCFCs). These compounds were developed as replacements for CFCs. While they are much less destructive, they also contribute to ozone depletion. Under the Protocol, they are to be phased out in developed countries by 2020 and in developing countries by 2040. The new amendment will ban trade in HCFCs with countries that have not yet ratified the Protocol's 1992 Copenhagen amendment, which introduced the HCFC phase-out; this will provide an incentive to these countries to ratify as soon as possible. It will also require developed countries to freeze production of HCFCs in 2004 at 1989 levels, and developing countries to do so in 2016 with a baseline of 2015. Some production will be permitted to meet the "basic domestic needs" of developing countries. Production of bromochloromethane, a recently developed ozone-depleting chemical, is also to be completely phased out in all countries by 2002. The new provisions will take effect when the amendment has been ratified by 20 governments.

Because the chemicals industry is constantly creating new products, there is concern that new ozone-depleting chemicals could be created and marketed in the future. Meeting participants therefore asked the Scientific Assessment Panel and the Economic Assessment Panel to develop assessment criteria for the ozone-depleting poten-

tial of any new chemicals, and to explore ways to cooperate with the private sector on such assessments.

The meeting concluded with the adoption of the Beijing Declaration, reaffirming the political commitment of the world's governments to accelerate the phase-out of substances that destroy the ozone layer. The Declaration states that, despite the Protocol's success so far, governments "cannot afford to rest on our laurels, since scientists have informed us that the ozone hole has reached record proportions and that ozone layer recovery is a long way from being achieved." It appeals for continued efforts to halt illegal trade in ozone-depleting substances.

Official documents and other materials about the Montreal Protocol are available on the Internet at *www.unep.org/ozone* or *www.unep.ch/ozone*.

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UNEP DTIE HIGHLIGHTS

UNEP sponsors financial and insurance event at COP-5

New financial instruments, including catastrophe bonds and weather derivatives, are part of the insurance and financial sectors' growing response to global climate change. Insurance companies and banks discussed ways to implement the market mechanisms under the Kyoto Protocol during a UNEP-sponsored side event at the Conference of the Parties to the Kyoto Protocol (COP-5) in Bonn in November (see **World News**). Joint Implementation projects and the Clean Development Mechanism present the most promising business opportunities with environmental benefits as well, according to industry representatives at the meeting.

Participants called for an early start to the Joint Implementation mechanism, which helps countries with economies in transition improve their industries and the environment. "The early start of Joint Implementation will contribute to reducing the threat of 'hot air' trading, which exists in some Eastern European economies, and will support an effective implementation of the Clean Development Mechanism," said Ivo Knoepfel, Head of Corporate Environmental Management at Swiss Re. The Kyoto Protocol, which aims at specific greenhouse gas emissions reduction targets by industrialized countries, presents a number of risks but also various business opportunities for banks and insurers.

The financial instruments are of great interest to an international insurance industry that has recently faced huge increases in the scope and frequency of natural disasters, and in payments to insurees for weather-related losses. Not only globally-acting companies but also medium-sized and small ones contributed to the debate on how to mitigate climate change, a topic of ever-growing concern to insurers. Industry statistics show that 24 of the last 28 events that created major economic losses were caused by climate- or weather-related events, and that economic losses from these catastrophes alone exceeded US$150 billion, of which US$65 billion was insured. Major weather and flooding catastrophes in 1990 quadrupled, and economic losses increased seven-fold and insured losses twelve-fold, compared to 1960, according to official statistics of Munich Re and Swiss Re (the two leading reinsurance companies). These figures represent actual pay-outs by the industry and are therefore fairly accurate. The insurance industry believes that expected changes in rainfall and average temperature could increase both the frequency and severity of major weather events such as windstorms, tornadoes, hailstorms, floods, droughts and heat waves in many parts of the world.

According to the insurance industry, there is already some evidence that the floods of the past decade can be attributed to global warming. Thomas Loster, a Munich Re manager, says the trend of increasing disasters is due to world population growth, the increasing concentration of people and insurable assets in urban areas, and the global migration of people and industries into areas prone to natural hazards – such as coastal regions. "However, some natural hazards are beginning to show changes in frequency and intensity that appear to be a consequence of environmental changes." Mr. Loster, a member of the Geosciences Research Group, also cited rising sea levels as well as changing temperature patterns and rainfall distribution in some regions of the world. "In Germany, the country hosting COP-5," he said, "summers have become dryer and winters wetter, thus aggravating the risk of droughts and floods."

Such events would create serious consequences not only for property insurance, but also for health and life insurance. The increase in extreme events could cause serious financial losses for the insurance industry if current safety measures such as building codes are no longer sufficient to withstand the new climate features. Moreover, risk areas may shift. If areas like New York, for example, were to become hurricane prone, there would be serious impacts on the local and global economy and the financial markets.

Developing countries where government finances are very vulnerable to more frequent and extreme weather events, such as cyclones and droughts, face a critical situation. Only about 5% of weather damage is paid for through insurance coverage, unlike in Europe and North America, where the figure is about 25%. "Following the COP-5 discussions about adaptation, there may be many important benefits by combining the strengths of the insurance industry with public resources to deliver both an increased level of insurance and a more effective means of delivering disaster recovery services," according to Dr. Andrew Dlugolecki, Director of General Insurance Development for the major international insurer CGU. The development of a viable insurance industry could also create lower risk for many types of investment. Members of the UNEP Financial Services Initiatives are prepared to assist governments and developing country partners to advise them on how to create a viable insurance industry.

In addition to action on climate change, other insurance products have the potential to benefit the environment, insurers and clients. For private clients, insurers can offer environmentally sound insurance polices such as giving special discounts on car insurance to holders of season tickets for public transport, potentially decreasing reliability on cars in urbanized areas. Oliver Zwirner, environmental coordinator at RheinLand Insurance, pointed out that "environmental consciousness by individuals reduces the risk for the insurance company, has a positive impact on the premium, and is ultimately beneficial for the environment."

For further information, contact: Ken Maguire, UNEP DTIE Financial Institutions Initiatives, Tel: +41 22 917 8288, E-mail: ken.maguire@unep.ch. ◆

UNEP receives US$5 million from UN Foundation

The United Nations Foundation (UNF), established by American multimedia billionaire Ted Turner, has awarded over US$5 million to UNEP to be used for environmental projects. The grant, announced at the UN Foundation board meeting in South Africa in November, will allow UNEP to fund three projects.

The first is the African Rural Energy Enterprise Development Initiative, which will receive US$2 million over three years. This project will encourage the establishment of an alliance to identify, develop and finance clean, self-sustaining rural energy start-up enterprises in Africa. Led by UNEP DTIE's Energy Group, the proposed partners include E & Co., an institution that creates clean energy projects for the poor, as well as local sustainable energy NGOs, entrepreneurs, and regional African development banks. UNEP Executive Director Klaus Töpfer, who attended the UNF meeting, welcomed its support for Africa: "Support to Africa is one of UNEP's five priority areas of concentration and it is encouraging that almost half of the total UN projects in the latest UNF funding round have a strong focus on Africa."

The second project, the Fossil Fuels Subsidies Project, will receive a planning grant of US$50,000 to support UNEP's development of a proposal to explore ways to reduce the environmental impacts of fossil fuel subsidies world-wide. Incentives to produce and use fossil fuel are estimated at more than US$145 billion globally each year. Some experts believe the negative environmental impacts of fossil fuel consumption can be greatly reduced by eliminating incentives for environmentally harmful technologies and practices and by creating incentives for clean energy services.

Finally, the Global Reporting Initiative (GRI) will be given US$3 million over two years. The grant includes $1.7 million that is conditional on matching funds being received. The GRI is a collaboration of UNEP, the Coalition for Environmentally Responsible Economies (CERES), NGOs and the private sector that seeks to create a common framework for company-level reporting on the environmental, economic and social aspects of sustainability. The project will promote general acceptance of Corporate Sustainability Reporting Guidelines, analogous to financial reporting practices, with the ultimate aim of creating a global information disclosure structure to foster strong corporate accountability world-wide.

For more information, contact: UNEP DTIE, 39-43 quai André-Citroën, 75739 Paris Cedex 15, France, Tel: +33 1 44 37 14 50, Fax: +33 1 44 37 14 74, E-mail: unep.tie@unep.fr. ◆

UNEP DTIE project supports investments in renewable energy and energy efficiency

With the support of the Global Environment Facility, UNEP has set up a new service to help financial institutions evaluate potential investments in renewable energy technology (RET) and energy efficiency (EE) projects. The UNEP RET/EE Investment Advisory Facility helps financial institutions acquire expert advice concerning specific RET or EE investments being considered in developing and transitional economy countries. Assistance comes either in the form of funds for contracting expert consultants or, for environmental issues, directly through in-house UNEP DTIE staff. Issues such as regulatory compliance, operations and maintenance cost assessment, and legal or contractual reviews are all eligible for assistance, as are many other areas of the evaluation and due diligence process.

UNEP's RET/EE Investment Advisory Facility helped evaluate the financial viability of a wind farm investment.

This service builds on UNEP's Financial Institutions Initiative, which now includes a membership of over 180 banks from 42 countries. By signing the Statement by Financial Institutions on Environment and Sustainable Development, bank leaders commit their organizations to incorporate environmental considerations into internal and external business activities. Where RET and EE investments are concerned, the new advisory facility helps financial institutions follow through with their commitments. UNEP believes that this combined approach will help financial institutions mainstream environmental investments more effectively.

To date, the facility is providing support to five investment evaluations, which include a wind farm, a small hydro plant, a district heating system, a sustainable forestry plantation and a coffee processing waste utilization project. The type of advisory support provided so far includes:

- **salt mine investment**: evaluating the feasibility of developing a plantation adjacent to the mine that would provide wood supply for salt drying in an environmentally sustainable manner;
- **wind farm investment**: investigating whether emission reduction credits can be valued, certified and sold to create the additional revenue stream required for project viability;
- **small hydro "peaking" plant**: providing a third-party technical assessment to resolve outstanding design issues between bank and developer;
- two potential **cogeneration investments**: assisting a bank in evaluating its inclusion in a "carbon offsets investment fund" (the first investment involves a coffee waste recovery process, and the second a district heating plant upgrade).

The RET/EE Investment Advisory Facility is in keeping with UNEP's mandate to play a catalytic role in bringing cleaner technologies to market. By providing information to financial decision-makers, it is intended to help direct private sector resources towards RET and EE projects in developing countries.

A brochure on the RET/EE Investment Advisory Facility is available at *www.uccee.org/PromoteInvestments/brochure.htm*.

For more information, contact: Eric Usher, UNEP DTIE OzonAction and Energy Programme, 39-43 quai André-Citroën, 75739 Paris Cedex 15, France, Tel: +33 1 44 37 76 14, Fax: +33 1 44 37 14 74, E-mail: eric.usher@unep.fr. For more information on UNEP's Financial Institutions Initiative, see www.unep.ch/etu/fimser/fin_home.htm, or contact Ken Maguire, UNEP Economics and Trade Unit, Geneva, Tel: +41 2 917 82 88, E-mail: ken.maguire@unep.ch. ◆

Books & Reports

UNEP PUBLICATIONS

Towards the Global Use of Life Cycle Assessment

Life Cycle Assessment (LCA) is used to evaluate a product's environmental effects throughout its entire existence, from raw materials extraction and processing through manufacturing, distribution and use, to final disposal. It can be used as both a quantitative tool and a method or way of thinking about production and consumption issues. Although the LCA concept was developed over 15 years ago, there is evidence that it is not being used to its full potential. This UNEP publication is intended to assess and promote the application of LCA. It provides a brief overview of the LCA process and includes the results of a global survey of LCA use and a workshop that reviewed the survey results and recommended appropriate actions. It discusses major barriers to more widespread adoption of LCA and makes recommendations on how these can be addressed. The publication was prepared in cooperation with the US Environmental Protection Agency and the Leiden University Centre of Environmental Science.

(1999). UNEP Publications, 11-13, chemin des Anémones, CH-1219 Châtelaine, Geneva, Switzerland. Tel: +41 22 979 91 11, Fax: +41 22 797 34 60. E-mail: trpic@unep.ch. Also available from the UNEP Online Bookshop, www.earthprint.com. Pbk., 71p. ISBN 92-807-1740-5.

OzonAction Strategic Information System (OASIS)

In order to make informed, timely decisions concerning environment and development, developing countries need updated and neutral information in a readily accessible and "user-friendly" format. The OzonAction Strategic Information System (OASIS) is intended to meet this need. Developed by the UNEP DTIE OzonAction Programme, under the Multilateral Fund for the Implementation of the Montreal Protocol, OASIS is a CD-based reference system that provides essential resource material related to the Protocol's implementation. Although it is designed primarily for National Ozone Units, industry associations and enterprises in developing countries, OASIS also provides information resources for anyone who is directly or indirectly involved in phasing out ozone-depleting substances.

This release includes updated and significantly expanded information from key members of the international Montreal Protocol community, including sources of assistance, alternative technologies, and policies, procedures and guidelines. Among the new features of the CD-ROM edition are a greatly increased volume of data (ten times as much as in the previous version) and presentation of the data in PDF format, which allows documents to be read, searched, and printed in their original layout. A built-in web browser is included, as well as Internet links to ozone protection web sites directly through the database. The complete content, menu screens, navigation and help features are provided in English, French and Spanish. The CD-ROM is compatible with Windows 95 and Macintosh operating systems.

(1999). Available from: SMI (Distribution Services) Limited, P.O. Box 119 Stevenage, Hertfordshire SG1 4TP, UK. Fax: +44 1438 748 844. E-mail: Anthony@smibooks.com. ISBN 92-807-1822-3.

Environmental Impacts of Trade Liberalisation and Policies for Sustainable Management of Natural Resources

This series of reports discusses how countries can take action to address trade-related environmental degradation. The reports, released to coincide with the World Trade Organization meeting in December, show how individual countries can identify the impacts of recent trade liberalization on their natural and environmental resources, and how they can develop strategies to address negative impacts and strengthen positive ones. There are six individual country reports: *A Case Study on Bangladesh's Shrimp Farming Industry*; *A Case Study on Chile's Mining Sector*; *A Case Study on India's Automobile Sector*; *A Case Study on the Philippines' Forestry Sector*; *A Case Study on Romania's Water Sector*; and *A Case Study on Uganda's Fisheries Sector*.

Each report contains background information on the relevant industry sector, an assessment of the economic and the environmental impacts of trade liberalization on that sector, and a discussion of policies and economic instruments that can be used to ameliorate these impacts. Each concludes by recommending a set of practical measures to effectively halt trade-related environmental degradation, and to ensure that the country's trade is both robust and sustainable in the long term. The case studies were conceived, designed and conducted by national teams of practitioners within each country. The series also includes a synthesis report, *Trade Liberalisation and the Environment*, discussing the lessons learned from all six countries.

A Case Study on Bangladesh's Shrimp Farming Industry *(1999). Pbk., 44p.*; A Case Study on Chile's Mining Sector *(1999). Pbk., 79p.*; A Case Study on India's Automobile Sector *(1999). Pbk., 156p.*; A Case Study on the Philippines' Forestry Sector *(1999). Pbk., 93p.*; A Case Study on Romania's Water Sector *(1999). Pbk., 95p.*; A Case Study on Uganda's Fisheries Sector *(1999). Pbk., 169p.*; Trade Liberalisation and the Environment *(1999). Pbk., 88p. All available from SMI (Distribution Services) (see above).*

Pachamama

Pachamama: Our Earth, Our Future is a special youth edition of UNEP's *Global Environment Outlook 2000*. Created as a global environmental primer for 11- to 14-year-olds, it was produced by youth editors, designers and contributors worldwide with the support of UNEP, Peace Child International, UNESCO and UNICEF. *Pachamama* means Mother Earth in the Inca culture. The book contains information, case studies, games, and topics for classroom discussion of major environmental issues, ranging from atmospheric and freshwater problems to urbanization and the protection of polar areas. It is complemented by two companion publications, a teacher's guide, and suggestions to youth for taking action – including a "how-to" guide for contacting political leaders.

(1999). Evans Brothers Ltd., 2A Portman Mansions, Chiltern St., London W1M 1LE, UK. Tel: +44 171 935 7160. Also available from the UNEP Online Bookshop (see box, page 59). Pbk., 96p. ISBN 0-237-52119-9.

International Activities Related to Chemicals

This report outlines the roles and responsibilities of existing legal instruments and organizations involved in chemicals management. It includes contact information, lists a summary of goals and provisions, identifies decision-making bodies, and briefly describes major developments for each international agreement or convention dealing with aspects of chemical management. Similar information is provided for organizations involved in chemical management, such as the various UN agencies, the World Health Organization and the World Trade Organization. The report evaluates the advantages and disadvantages of various options to enhance the efficiency and coherence of these agreements and organizations. It is intended to give a comprehensive overview of the players and international legal framework in the chemicals arena, and will be updated regularly to reflect major developments in international chemical management.

(1999). UNEP Chemicals, 11-13, chemin des Anémones, CH-1219 Châtelaine, Geneva, Switzerland. Tel: +41 22 917 12 34, Fax: +41 22 797 34 60, E-mail: chemicals@unep.ch, Internet: www.chem.unep.ch. Pbk., 222p.

Guidelines for the Identification of PCBs and Materials Containing PCBs

Polychlorinated biphenyls (PCBs) are hazardous chemicals that can cause adverse health effects to humans and the environment, even at low concentrations. They do not break down easily in the environment or in living creatures, tending to accumulate in the bodies of both animals and people, and have become widespread in soil, water and air throughout the world. The first step in environmentally sound PCB management is to identify the sources and to develop strategies to keep the PCBs from being released to the environment. This guidebook provides general information on PCBs, including definitions, use, characteristics, and environmental and health effects. It describes procedures to identify potential PCB-containing materials and to verify their PCB content, and outlines storage techniques and disposal alternatives. The guidebook includes a step-by-step approach to identifying PCBs and lists sources of additional information.

(1999). UNEP Chemicals (see above). Pbk., 33p.

United Nations Environment Programme
UNEP
STUDY ON THE RELATIONSHIP BETWEEN FREE TRADE POLICIES AND CONSERVATION AND SUSTAINABLE USE OF NATURAL RESOURCES

Inventory of Worldwide PCB Destruction Capacity

This UNEP Chemicals publication is a guide to the facilities available worldwide for destruction of PCBs. It includes a description of various PCB destruction processes, including their advantages and disadvantages, and lists destruction facilities by region and country.

(1999). UNEP Chemicals (see above). Pbk., 79p.

Study on the Relationship Between Free Trade Policies and Conservation and Sustainable Use of Natural Resources

The relationship between trade policies and the environment has gained worldwide attention, especially during the November meeting of the World Trade Organization (WTO) in Seattle. This study focuses on the environmental impacts of international trade liberalization and sustainable development in Latin America and the Caribbean. It describes the international frame of reference, including relevant aspects of Agenda 21 and the WTO, and summarizes the conceptual debates on trade and the environment with special attention to the Convention on Biological Diversity's effect on trade and the environment. It then puts these issues into the context of Latin America and the Caribbean, providing a description of the natural characteristics of the region and an account of the regional and subregional integration efforts being made. UNEP's Regional Office for Latin America and the Caribbean (ROLAC) conducted the study, which is also available in Spanish.

(1999). UNEP/ROLAC, Boulevard de los Virreyes 155, Lomas de Virreyes, 11000 México DF, Mexico. Tel: +52 5202 4841, Fax: +52 5202 0950, E-mail: unepnet@rolac.unep.mx. Pbk., 45p. ISBN 92-807-1803-7.

Planning and Management of Lakes and Reservoirs: An Integrated Approach to Eutrophication

An increasing number of freshwater bodies have become polluted by nutrients, mainly phosphorus and nitrogen, originating from agricultural, domestic and industrial sources. These pollutants increase the growth and abundance of aquatic plants, altering the natural balance of aquatic life, oxygen and nutrients in water bodies and reducing water quality. This process, called eutrophication, is one of the most widespread environmental problems and has significant negative ecological, health and environmental impacts. The process of eutrophication of lakes and reservoirs is related to societal factors such as rapid population growth, water use patterns, deforestation and agricultural practices. This book argues that controlling eutrophication cannot be achieved by technological means alone, but that these societal factors must also be comprehensively addressed. Produced with the participation of experts from Africa, Europe, North and South America, Asia and Oceania involved in the management of freshwater resources, it assembles their experiences on the causes of, and possible ways to prevent, eutrophication. While the publication is not intended to be a technical manual on how to prevent or solve the problem of eutrophication, it attempts to provide a comprehensive view of the essential components and processes for addressing the issue.

(1999). IETC, Japan. Available from UNEP Online Bookshop, Internet: www.earthprint.com. Pbk., 375p. ISBN 92-807-1819-3.

New UNEP Online Bookshop
www.earthprint.com

UNEP publications, as well as those of UNEP/Grid-Arendal and the World Health Organization, can now be ordered online through a secure web site managed by SMI Distribution Services and GRID-Arendal. Some 600 UNEP publications are listed by subject, and the main page features new publications and a search function. The site also allows registration for E-mail notification of new publications in a designated field of interest.

Early Warning of Selected Emerging Issues in Africa

This report identifies some of the emerging and interconnected environmental issues faced by Africa, including those resulting from highly uneven population distribution, coastal population growth, pressure on land cover types and on protected areas, and transboundary resource issues. It assesses the impact of Africa's population on environmental protection efforts and the potential for such efforts to cause regional conflict.

(1999). UNEP Publications (see above). Pbk., 44p. ISBN 92-807-1766-9.

GENERAL

Seminar Proceedings of the UNEP Working Group on Policies, Strategies and Instruments to Promote Cleaner Production of the UNEP Cleaner Production Programme

The International Institute for Industrial Environmental Economics (IIIEE) at Lund University in Sweden has produced a series of seminar proceedings on cleaner production topics. The seminars were sponsored by UNEP's Cleaner Production Programme, together with the IIIEE. Three new volumes are available.

Cleaner Production: The Search for New Horizons (1999). Pbk., 79p. ISSN 1401-0798. The goals of this 1997 seminar were to rearticulate and reconsider the vision and purpose of cleaner production, respond to new challenges, and identify ways to better market the CP approach to decision-makers.

Continuity, Credibility and Comparability (1999). Pbk., 175p. ISSN 1401-0798. This seminar, held in 1998, addressed business environmental performance reporting and its links to financial performance.

Total Cost Assessment: Recent Developments and Industrial Applications (1999). Pbk., 333p. ISSN 1401-0798. Participants in this 1997 seminar discussed various approaches and challenges to incorporating environmental costs into business decisions, specifically Total Cost Assessment.

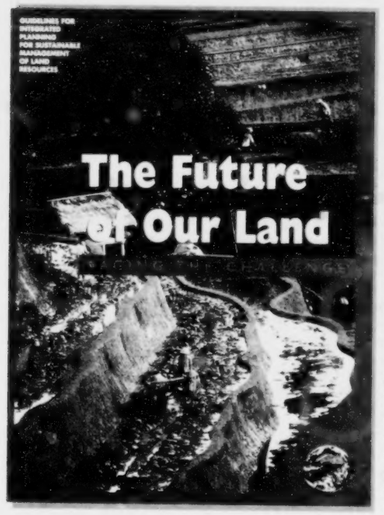
Each of these publications includes an overview of the presentations made at each seminar and reproduces the papers presented by expert participants.

(1999). IIIEE, Lund University, P.O. Box 196, SE-221 00 Lund, Sweden. Tel: +46 46 222 02 00, Fax: +46 46 222 02 10, E-mail: iiiee@iiiee.lu.se, Internet: www.lu.se/iiiee.

The Future of Our Land

FAO and UNEP have collaborated on an improved planning framework for the development and management of land resources, based on partnership between governments and people. This publication is the third and final volume in a series that introduces the integrated planning approach, which is centred on the concepts of stakeholders and their objectives and on the government's role in creating conditions that allow the rural population to use its resources in productive and sustainable ways. It describes the key elements of successful integrated planning, including clear objectives, effective local and national institutions, and bases for negotiation among stakeholders. Included is a CD-ROM, *Integrated Planning for Sustainable Management of Land Resources*, containing background documents, case studies and other related publications. The first two volumes in the series, *Our Land Our Future* (1995) and *Negotiating a Sustainable Future for Land* (1997), are also available from FAO.

(1999). FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy. Fax: +39 06 5705 3360, E-mail: publications-sales@fao.org, Internet: www.fao.org. Pbk., 71p. ISBN 92-5-104366-9.



A Tour to Sustainability?

Tourism, the world's largest industry, is especially important to the economies of many developing countries. In recent years awareness has been growing that while it can have significant environmental impacts, tourism also has the potential to be part of a sustainable development strategy. This publication, originally a Master's thesis, discusses the role of tour operators in promoting sustainable tourism. Tour operators are often the central link between travel customers and other tourism industry members such as airlines, hotel operators and travel agents. However, they lag behind these sectors, in part because their activities are less visible. Only a few larger companies demonstrate some awareness of their business's environmental impacts. The author assesses the reasons and argues that a more proactive approach to sustainability issues could be a competitive advantage for tour operators because of the growing environmental awareness of travel service consumers.

A. Budeanu (1999). IIIEE, Lund University (see above). Pbk., 84p.

Mapping the Journey: Case Studies in Strategy and Action toward Sustainable Development

This book presents detailed case studies of sustainable development plans and strategies from 13 corporations (including a Swedish automaker, an American clothing company and a Japanese electronics manufacturer) as well as the Netherlands National Environmental Policy Plan. Each case study describes the company's guidelines, goals, measures of success, tools and techniques. Although none of the companies has achieved sustainability according to its own standards, all cite benefits from the ongoing process. These include financial gains, improved relationships with customers, and new business opportunities.

L.R. Rouledge, R.S. Barton and K.S. Brady (1999). Greenleaf Publishing, Aizlewood Business Centre, Aizlewood's Mill, Nursery Street, Sheffield S3 8GG, UK. Tel: +44 114 282 3475, Fax: +44 114 282 3476, E-mail: greenleaf@worldscope.co.uk, Internet: www.greenleaf-publishing.com. Pbk., 287p. ISBN 1874719268.

Food for the Billions: Asia-Pacific Roundtable on Sustainable Agriculture

Environmental damage, including soil degradation, is likely to continue to impair Asia's food production capacity in the coming decades. This conference, held in Bangkok in September, focused on key regional agricultural issues, especially the need for Asia's smallholders to increase productivity without damaging the environment. It was sponsored by the Global Forum for Agricultural Research and the Asia-Pacific Crop Protection Association. Participants from government, academia and the private sector discussed ways to address food security, safety and trade issues, as well as biotechnology and other prospective means of increasing yield. The proceedings contain the keynote speech and the papers presented.

(1999). Asia-Pacific Crop Protection Association, 1405 Rasa Tower Building, 555 Paholyothin Road, Chatuchak, Bangkok 10900, Thailand. Tel: +66 2 937 0487, Fax: +66 2 937 0491, Pbk., 133p.

Human Development Report 1999

The tenth edition of the UN Development Programme (UNDP) *Human Development Report* focuses on the social, environmental and development effects of globalization. The authors note that while global markets, technology, ideas and solidarity can enrich the lives of people around the world, they also challenge us to ensure that benefits are shared equitably and that increasing interdependence enhances human lives as well as profits. The report makes the case that while globalization is not a new phenomenon, it is now driven by competitive global markets to a greater extent than ever before, outpacing both the governance of markets and people's ability to control its social repercussions. Globalization also increases people's insecurity when it contributes to the spread of global crime, disease and financial volatility.

The report recommends an agenda for action that includes global governance reforms to ensure greater equity, new regional approaches to collective action and negotiation, and national and local policies that can capture the opportunities created by the global marketplace and translate them more equitably into human development.

The report includes human development index (HDI) rankings of 174 countries and 30 data tables on a wide range of social and economic indicators, from life expectancy to food security, environmental management and gender inequity. It also includes a new table on trends in human development from 1975 to 1997 for 79 countries, showing that while countries have made substantial progress in human development, the speed and extent of their progress have been uneven.

The UNDP *Human Development Report*, including data tables, is available on-line at *www.undp.org/hdro/report.html*.

(1999). Oxford University Press, New York. Available from United Nations Publications, Sales Office and Bookshop, CH-1211, Geneva 10, Switzerland. Tel: +41 22 917 2614, Fax: +41 22 917 0027, E-mail: unpubli@unog.ch, Internet: www.un.org/Pubs/. Pbk., 262p. ISBN 0-19-521562-1.

Trade Measures in Multilateral Environmental Agreements

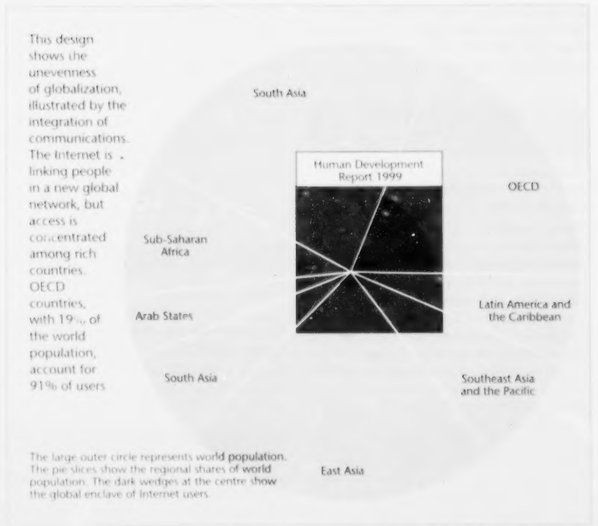
The instruments that international conventions use to control global environmental problems often include trade measures. Their use has been controversial, however, especially within the trade policy community. This OECD report examines the reasons for using trade measures in three major international agreements: the Basel Convention on transboundary movements of hazardous wastes; the Montreal Protocol on eliminating the production and trade of ozone-depleting substances; and the Washington Convention on International Trade in Endangered Species (CITES). It finds that there are a variety of reasons for using trade measures, including promoting participation in and enforcement of the conventions, and preventing countries or manufacturers from simply diverting their trade or production in order to avoid compliance. The report assesses the factors contributing to, or limiting, implementation of trade measures and highlights areas that need improvement if the objectives are to be achieved.

(1999). OECD Publications, 2, rue André-Pascal, 75775 Paris Cedex 16, France. Tel: +33 1 45 24 82 00, Fax: +33 1 49 10 42 76, E-mail: sales@oecd.org, Internet: www.oecd.org/bookshop. Pbk., 214p. ISBN 92-64-17130-4.

Business and the UN: Partners in Sustainable Development

A major factor in progress towards sustainable business and industry is the introduction of technologies that make more efficient use of resources and minimize environmental impacts. Such cleaner production technologies must be cost-effective, and their benefits clear to business decision-makers, if they are to be widely accepted and adopted. A series of exhibits at the sixth session of the UN Commission on Sustainable Development (CSD-6) demonstrated the process of transferring cleaner production technologies from businesses in industrialized countries to those in the developing world. This publication includes nine case studies presented at CSD-6, with examples of technology transfer ranging from gold mining in Tanzania to fish processing in Chile. The book also includes background papers and official documents on technology transfer.

(1999). UN Publications, New York. Available from SMI (see above). Pbk., 154p. ISBN 98-10104482-0.


This design shows the unevenness of globalization, illustrated by the integration of communications. The Internet is linking people in a new global network, but access is concentrated among rich countries. OECD countries, with 19% of the world population, account for 91% of users
South Asia
Human Development Report 1999
OECD
Sub-Saharan Africa
Arab States
Latin America and the Caribbean
South Asia
Southeast Asia and the Pacific
East Asia
The large outer circle represents world population. The pie slices show the regional shares of world population. The dark wedges at the centre show the global enclave of Internet users.

Towards the Global Use of Life Cycle Assessment

Environmental Impacts of Trade Liberalisation and Policies for Sustainable Management of Natural Resources

Pachamama

Study on the Relationship Between Free Trade Policies and Conservation and Sustainable Use of Natural Resources

(See UNEP Publications above.)

ENERGY

World Energy Outlook Looking at Energy Subsidies: Getting the Prices Right

Many governments directly or indirectly subsidize energy prices, sometimes keeping them below the cost of production. Such subsidies can reduce economic efficiency, increase the burden on government budgets, and contribute to negative environmental impacts. Many governments are now moving away from such subsidies, but face the difficult task of reducing subsidies without bankrupting their poorer citizens through higher energy costs. This study by the International Energy Agency (IEA) shows the extent to which energy is underpriced, especially in developing and transitional countries. It focuses on eight countries that together account for some 50% of the world's population and 60% of non-OECD energy use: China, India, Indonesia, Iran, Kazakhstan, Russia, South Africa and Venezuela. Below-market energy prices were pervasive in these countries, averaging 20% less than opportunity-cost or market-based reference prices. The study quantifies the potential benefits of subsidy reform in these countries, which include reducing wasteful energy consumption, encouraging economic growth, and lowering emissions of carbon dioxide and other greenhouse gases. It also quantifies the impacts of emissions-trading schemes on country government budgets and potential revenues.

This study was produced as part of the OECD Initiative on Sustainable Development. It is a complement to the IEA's semi-annual *World Energy Outlook*, the next edition of which will appear in 2000.

(1999). IEA Publications, P.O. Box 2722, London W1A 5BL, UK. Tel: +44 171 896 2244, Fax: +44 171 896 2275, E-mail: teaorder@pearson-pro.com, Pbk., 224p. ISBN 92-64-17140-1.

Dealing with Uncertainty Together

The IEA's Energy Technology Systems Analysis Programme has produced a summary of its work between 1996 and 1998 on developing tools and databases (including computer modelling) to analyse energy systems. Some tools, such as the MARKAL energy systems model, have been extended to the area of climate change modelling and pre-

diction. This technical publication summarizes developments in that area and presents some results of climate change analysis.

(1999). IEA (see above). Pbk., 83p.

CLIMATE CHANGE/ AIR POLLUTION

Aviation and the Global Atmosphere

Concern about aviation's potential effects on the upper atmosphere has grown as the number of aircraft and flights has increased in recent decades. This report, by the Intergovernmental Panel on Climate Change, discusses the gases and particles emitted by aircraft and the role they play in modifying the atmosphere and in forming contrails. It assesses their effects on the atmosphere's properties and on the ozone layer, effects that could lead to climate change as well as allowing more ultraviolet radiation to reach the earth. The report also analyses the ways changes in aircraft technology and operations, and their institutional, regulatory and economic framework, could affect emissions in the future. *Aviation and the Global Atmosphere* was prepared with the participation of technical experts from airlines, aviation manufacturers and atmospheric scientists. It is intended for members of the aviation industry, policy-makers, environmental organizations and researchers who work in the fields of global change, atmospheric chemistry and economics.

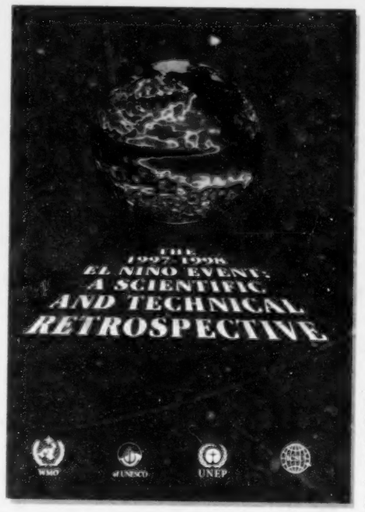
(1999). Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 2RU, UK. Tel: +44 1223 312393, Fax: +44 1223 315052, E-mail: information@cup.cam.ac.uk, Internet: www.cup.cam.ac.uk. Pbk., 373p. ISBN 0-521-66404-7.

The 1997-1998 El Niño Event: A Scientific and Technical Retrospective

El Niño is the name now commonly given to a warming of surface waters in the central and eastern equatorial Pacific Ocean, and to the associated complex and interrelated group of climate and weather phenomena. An El Niño event typically brings severe storms and unusually heavy rainfall to normally dry Pacific coastal regions in South America, while lower than normal rainfall occurs in the western Pacific region and Southeast Asia. It appears to cause a shift in weather patterns in other parts of the world as well, bringing drought to some areas and increased rainfall, floods and tropical storms to others. The weather phenomena associated with the 1997-98 El Niño event had major socio-economic impacts, causing over 24,000 deaths, affecting some 110 million people, and creating losses of over US$34 billion worldwide.

In response to a UN General Assembly resolution calling for improved international cooperation to respond to and reduce El Niño's harmful effects, the UN Task Force on El Niño and the Government of Ecuador sponsored an international seminar on the 1997-98 El Niño event in November 1998. This publication is a product of the seminar, focusing on scientific and technical aspects. It reviews the existing knowledge and capabilities for monitoring and forecasting such events and suggests ways to integrate the mitigation of climate impacts into sustainable development strategies.

(1999). World Meteorological Association, 7 bis, avenue de la Paix, P.O. Box 2300, CH-1211 Geneva 2, Switzerland. Tel: +41 22 730 83 14, Fax: +41 22 733 28 29, E-mail: ipa@gateway.wmo.ch, Internet: www.wmo.ch, Pbk., 96p. ISBN 92-63-10905-2.



OzonAction Strategic Information System (OASIS)

(See UNEP Publications.)

INDUSTRY SECTORS

The Environment and Transport

The Environment and Transport brings together articles on the environmental aspects of transportation from a wide range of journals, many specializing in other topics, to allow researchers and students greater access to the relevant literature. An introductory chapter surveys transport-related issues and sets out basic environmental problems. The emphasis of the articles is on the potential contribution of the social sciences to solving these problems, although there are also some on technological aspects of reducing transport impacts.

Y. Hayashi, K. Button and P. Nijkamp, eds. (1999). Edward Elgar Publishing Ltd., Glensanda House, Montpellier Parade, Cheltenham, Gloucester GL50 1UA, UK. Tel: +44 1242 226 934, Fax: +44 1242 262111, E-mail: info@e-elgar.co.uk, Internet: www.e-elgar.co.uk. Hbk., 500p. ISBN 1-85898-819-5.

Safety and Health in the Fishing Industry

This report presents an overview of health and safety in the fishing industry, surveys recent information, and examines actions being taken by international organizations, governments, and those involved in the industry. It also looks at relevant International Labour Organization (ILO) standards. The report was prepared in anticipation of the Tripartite Meeting on Safety and Health in the Fishing Industry held in Geneva in December. It is published in English, French and Spanish. The full text is available online, in all three languages, at *www.ilo.org*.

(1999). ILO Publications, 4, route des Morillons, 1211 Geneva 22, Switzerland. Fax: +41 22 799 6938, E-mail: pubvente@ilo.org, Internet: www.ilo.org. Pbk., 100p. ISBN 92-2-111829-0.

CHEMICALS, POLLUTION AND ACCIDENTS

Polluted Sites: Remediation of Soils and Groundwater

This book reviews multidisciplinary approaches to remediation at sites where the soil and groundwater are polluted with petroleum products, metals or other chemicals. The author discusses identification and definition of contaminated sites, sampling and monitoring methods, and hazard assessments. The main focus is on choosing and applying appropriate remediation techniques. The book is a translation of a French publication and includes a discussion of the evolving French legal, regulatory and insurance aspects of managing polluted sites. It is intended for managers of such sites, as well as regulatory officials and environmental engineers responsible for directing their clean-up.

P. Lecomte (1999). A.A. Balkema, P.O. Box 1675, 3000 BR Rotterdam, The Netherlands. Tel: +31 10 414 5822, Fax: +31 10 413 5947, E-mail: sales@balkema.nl, Internet: www.balkema.nl. Hbk., 210p. ISBN 90-5410-784-7.

Hazard Prevention and Control in the Work Environment: Airborne Dust

Dust is an occupational hazard. It can cause serious health effects when inhaled and is responsible for many cases of lung disease, lead poisoning, asthma, allergies and other debilitating ailments. It may also create risks of fire or explosion as well as of product contamination. This WHO guidebook provides information on recognizing and assessing dust hazards, as well as guidance on dust control and management practices. It includes descriptions of dust control technologies, and housekeeping methods and work practices, that can avoid generation of hazardous dust. It is intended for workers and managers in occupations where dust is a concern.

(1999). WHO, Distribution and Sales, CH-1211 Geneva 27, Switzerland. Tel: +41 22 791 2476, Fax: +41 22 791 4857, E-mail: publications@who.ch, Internet: www.earthprint.com. Pbk., 208p.

OECD Environmental Health and Safety Series on Risk Management

The OECD's Environmental Health and Safety Division publishes several series of documents on chemical safety and management. One of these is a series on Risk Management. Three new volumes are available in this series:

Proceedings of the OECD Workshop on the Effective Collection and Recycling of Nickel-Cadmium Batteries (1999). Pbk., 167p. OECD ENV/JM/MONO(99)17.

Proceedings of the OECD Workshop on the Integration of Socio-Economic Analysis in Chemical Risk Management Decision Making (1999). Pbk., 282p. OECD ENV/JM/MONO(99)18.

Proceedings of the OECD Workshop on Sustainable Chemistry (1999). Pbk., 281p. OECD ENV/JM/MONO(99)19.

Each volume includes papers presented on a variety of technical subjects and case studies, with a summary of the findings and recommendations. The complete text of these and other Environmental Health and Safety publications are available online at *www.oecd.org/ehs*.

(1999). OECD Environment Directorate, Environmental Health and Safety Division, 2, rue André-Pascal, 75775 Paris Cedex 16, France. Tel: +33 1 45 24 82 00 Fax: +33 1 45 24 16 75, E-mail: ehscont@oecd.org, Internet: www.oecd.org/ehs.

"Technologies for Pollution Control", Parivesh Newsletter, October 1999

The Central Pollution Control Board, part of India's Ministry of Environment and Forests, publishes this newsletter on environmental topics. The October 1999 newsletter focuses on pollution control technologies in several heavy industries including chemicals, mining, power generation, and pulp and paper. Articles discuss the range of options available for pollution control in each sector and the improvements or new technologies required for better control of emissions.

(1999). Parivesh Bhawan, ENVIS Centre-01, Central Pollution Control Board, Delhi 110 032, India. Tel: +91 11 2204948, Fax: +91 11 2217079, E-mail: cpcb@alpha.nic.in.

International Activities Related to Chemicals

Guidelines for the Identification of PCBs and Materials Containing PCBs

Inventory of Worldwide PCB Destruction Capacity

(See UNEP Publications above.)

WATER

Deep Water/Profondeur des eaux/Aguas profondas

This book (in English, French and Spanish) presents an overview of the marine environment and the ways most species, including humans, depend on it. Also discussed are the origins of marine life, the geology and geography of oceans, and the ways climates and oceans affect each other. *Deep Water* focuses on the need to protect the fragile and interdependent ecosystems in and around the oceans and includes case studies showing how individuals and organizations are acting to preserve them. Approximately half the book consists of colour photographs of the ocean environment and its inhabitants, both under and above water. The names and addresses of organizations and individuals engaged in work to protect marine life are included.

I. Caldecott and M. Salmon (1999). Ellipsis, 2 Rufus Street, London N1 6PE, UK. Also available from UNEP Online Bookshop, Internet: www.earthprint.com. Pbk., 126p. ISBN 1-899858-79-2.

Conceptual Framework and Planning Guidelines for Integrated Coastal Area and River Basin Management

Almost two-thirds of the world's population lives in coastal areas, and by 2030 this is projected to increase to 75%. The enormous pressures that human activities exert on coastlines have already caused widespread environmental damage, including overfishing, destruction of coral reefs and mangrove swamps, and eutrophication of coastal waters. Coastal environments are also affected by pollution and erosion in river drainage basins, which carry much of the pollution from land areas to coastal waters. The Integrated Coastal Area and River Basin Management (ICARM) system can be used to assess, reduce and avoid environmental impacts to coastal areas, and to contribute to sustainable development. ICARM is based on assessments of population growth and distribution, urbanization and consumption patterns, waste generation and resource consumption. Using this approach, priority is given to capacity building, land use planning, resource management, legislation and enforcement, and protection and conservation of coastlines and river banks.

These guidelines have been created by UNEP and the Mediterranean Action Plan. Priority Actions Programme Regional Activity Centre (PAP/RAC) to be used as a basis for further developing the ICARM concept and putting it into action. The conceptual framework for ICARM is based on the hydrological, geochemical, ecological and socio-economic links between river and coastal areas. Practical procedures are outlined for achieving integrated management of these areas, such as the development of detailed, realistic and feasible local coastal management plans. The book also gives an overview of policy instruments that can be used to implement integrated management.

(1999). PAP/RAC, Kraj sv. Ivana 11, P.O. Box 74, HR-21000 Split, Croatia. Tel: +385 21 34 34 99 or 59 11 71, Fax: +385 21 36 16 77, E-mail: pap@gradst.hr, Internet: pap.gradst.hr. Pbk., 78p. ISBN 953-6429-27-6.

Planning and Management of Lakes and Reservoirs: An Integrated Approach to Eutrophication

(See UNEP Publications above.)

NATIONAL/REGIONAL

Second International Conference on Environmental Protection in Cement Industry

The cement industry in the Arab countries has grown tremendously in the past decade, and associated environmental problems have increased along with production. To address these problems and share potential solutions, the Arab Union for Cement and Building Materials sponsored a conference in Marrakesh, Morocco, in September. This volume collects 21 papers on technical processes and broader questions of sustainable development and the industry's future direction. Papers in English, French and Arabic are included.

(1999). Arab Union for Cement and Building Materials, P.O. Box 9015, Damascus, Syria. Tel: +963 11 6115412, Fax: +963 11 6621525, E-mail: auchm@net.sy. Pbk.

Environment Hong Kong 1999

This report by Hong Kong's Environmental Protection Department presents information on the state of Hong Kong's environment and its progress during 1998. It summarizes the legal and administrative framework of environmental protection efforts in Hong Kong and describes problems and progress in the areas of air, noise and water pollution, hazardous waste management and community involvement. The report is also available in Chinese, and in both English and Chinese on CD-ROM.

(1998). Hong Kong Government Publications

Centre, GF, Low Block, Queensway Government Offices, Hong Kong. Tel.: +852 2537 1910. E-mail: enquiry@epd.gov.hk. Internet: www.info.gov.hk/epd. Pbk., 266p.

Environment in the Transition to a Market Economy: Progress in Central and Eastern Europe and the New Independent States

Environmental damage associated with the old communist regimes in central and eastern European countries and the former Soviet Union remains a major problem and presents a challenge to their governments, which often do not have the funds or the political and legal framework to carry out clean-ups. This OECD report, published in English and French, examines the relationships between environmental conditions and policies and the transition to democratic, market-based economies in these countries. It analyses the obstacles to and achievements of institutional strengthening and policy reform, assessing environmental policy, financing and management. The authors conclude that economic, political and environmental reforms have in many cases been mutually supportive and reinforcing. Although economic reform provided a critical stimulus to environmental improvements, serious environmental problems remain and, in some cases, have worsened because of economic and political stagnation in many of the former communist countries.

(1999). OECD Publications, 2, rue André-Pascal, 75775 Paris Cedex 16, France. Tel: +33 1 45 24 82 00. Fax: +33 1 49 10 42 76. Internet: www.oecd.org/bookshop. Pbk., 245p. ISBN 92-64-17110-X.

Guidelines for Municipal Solid Waste Management Planning in Small Island Developing States in the Pacific Region

The countries of the Pacific face common problems in disposing of wastes: pollution from industrial wastes, poorly sited and managed landfills, and limited disposal sites. All these factors have contributed to marine pollution and coastal degradation. This study by the South Pacific Regional Environment Programme (SPREP), in cooperation with UNEP, is intended to assist small island developing states in developing and implementing solid waste management plans. It outlines common problems in waste management and their possible solutions, and provides a methodology for addressing the unique problems of individual locations. Also included is a list of resources for small island states.

(1999). SPREP, P.O. Box 240, Apia, Samoa. Tel: +685 21929. Fax: +685 20231. E-mail: sprep@sprep.org.ws, Internet: www.sprep.org.ws. Pbk., 75p. ISBN 982-04-0200-X.

Early Warning of Selected Emerging Issues in Africa

(See UNEP Publications above.)

EDITIONS FRANCAISES

Les Nations Unies et la protection de l'environnement : la promotion d'un développement durable

Six ans après le Sommet de Rio, les Septièmes rencontres internationales d'Aix-en-Provence ont été l'occasion de dresser un tableau du devenir de la planète à la lumière des actions menées en faveur du développement durable.

Les interventions ont fait ressortir l'importance et la complexité des questions que soulève le droit international de l'environnement. Les rencontres se sont closes sur un constat : en dépit des efforts de l'Organisation des Nations Unies et de ses agences spécialisées, trop peu de moyens ont pu être mobilisés pour déployer des stratégies intégrées favorisant un équilibre entre la croissance économique, un développement humain équilibré et le maintien d'écosystèmes sains et productifs.

(1999). Editions A. Pedone, 13 rue Soufflot, 75005, Paris, France. Broché, 205 p., ISBN 2-233-00355-1.

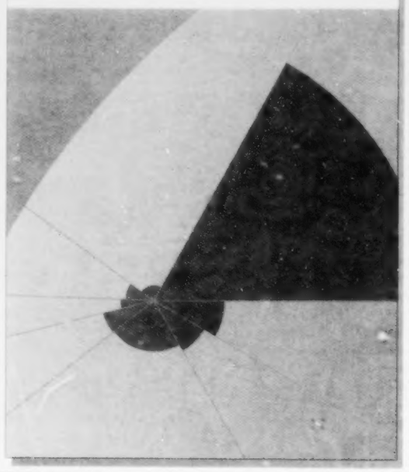
Sommaire – Rapport mondial sur le développement humain 1999

Dans l'édition de 1999, le *Sommaire du Rapport mondial sur le développement humain* du Programme des Nations Unies sur le développement présente le classement de 174 pays selon l'indicateur du développement humain et un tableau sur les tendances du développement humain entre 1975 et 1997 pour 79 pays. Le Sommaire expose le programme d'action recommandé dans le Rapport pour faire avancer plus équitablement le développement humain. Il comprend également des contributions spéciales. Le Prix Nobel Amartya Sen décrit comment l'indicateur du développement humain donne un visage humain à l'évaluation des processus de développement. Paul Streeten dresse le bilan de dix ans de Rapports mondiaux sur le développement humain. Enfin Ted Turner lance un appel pour le partenariat avec les Nations Unies en vue de relever les nouveaux défis mondiaux de notre époque.

(1999). Programme des Nations Unies sur le développement, Bureau du Rapport mondial sur le développement humain, 336 East 45th Street, New York, NY 10017, Etats-Unis. Tél : +1 212 906 3661. Fax : +1 212 906 3677. Courriel : hdro@undp.org. Internet : www.undp.org/hdro. ISBN 2-8041-3355-9.

SOMMAIRE

RAPPORT MONDIAL
SUR LE DÉVELOPPEMENT
HUMAIN 1999



Pour des marchés verts – Etiquetage, certification et acquisition écologiques au Canada, au Mexique et aux Etats-Unis

Le rapport préparé par le Secrétariat de la Commission de coopération environnementale (CCE) entre le Canada, le Mexique et les Etats-Unis expose succinctement les principaux programmes de ce type en vigueur dans les trois pays. Ses conclusions les plus importantes peuvent se résumer ainsi : l'écoétiquetage – ou écolabelisation – de produits moins dommageables pour l'environnement, à condition d'être largement mise en oeuvre, pourrait avoir un impact positif important sur l'environnement, surtout si le secteur privé est encouragé à acheter de préférence ces produits. Cependant, l'un des principaux obstacles à l'adoption à grande échelle des écoétiquettes – écolabels – par le secteur privé réside dans le fait qu'aucun label ne domine véritablement dans les trois pays. L'autre problème qu'il convient de résoudre et qui a des conséquences environnementales et économiques beaucoup plus importantes pour les trois pays concerne l'harmonisation des critères utilisés pour la certification et la vérification des produits écoétiquetés ou labélisés. Une telle harmonisation pourrait se traduire par une augmentation considérable du commerce transfrontière de produits écorationnels et se faisant, par un impact positif sur l'environnement beaucoup plus important que si chaque pays applique ses propres critères.

(1999). Commission de coopération environnementale, 393 rue St-Jacques Ouest, bureau 200, Montréal (Québec), Canada H2Y 1N9. Tél : +1 514 350 4300, Fax : +1 514 350 4314, Internet : www.cec.org. Broché, 59 p. (Également disponible en anglais et en espagnol.)

Web Site Highlight

Sustainable Development ONLINE susdev.eurofound.ie

This site is managed by the European Foundation for the Improvement of Living and Working Conditions, a publicly funded EU agency. It features databases that explore specific facets of the sustainability debate and provide links to, and information about, the growing number of network-orientated organizations working in the field of sustainable development. Over 160 such organizations are listed, described and classified. Other resources include a Conferences directory, which provides a listing of conferences on sustainable development topics, a Tools Database with links to the growing number of practical sustainable development resources and software tools available on the Internet, and an Education and Training database with a register and search facility covering vocational education and training courses in the EU and Norway on sustainable development. Two new databases will be introduced in 2000: one covering sustainability-oriented support systems aimed at small and medium-sized enterprises (SMEs), and a second featuring case studies of sustainable SMEs.

For more information, contact: European Foundation for the Improvement of Living and Working Conditions, Wyattville Road, Co. Dublin, Ireland. Tel: + 353 1 2043100. Fax: + 353 1 2826456, + 353 1 2824209. E-mail: postmaster@eurofound.ie.

The Basel Convention www.basel.int

The recently redesigned and expanded Basel Convention site, *www.unep.org/basel* (with a mirror site in Nairobi), contains information regarding the activities of the Secretariat of the Basel Convention, which administers the treaty controlling the transboundary movement of hazardous wastes and their disposal. Its redesign makes the site both more visually appealing and more intuitive in the way information is organized and displayed. The new site is organized into eight categories:

- The Basel Convention, containing general information about the treaty and the Secretariat;
- Press Room, containing press releases and the latest news;
- Status of Ratifications, which lists parties that have ratified the Convention (132 at last count) as well as those that have acceded to the ban amendment;
- Treaty Text, offering the full text of the Convention and related information;
- Meeting Documents, such as pre-session documents, including those of the working group that has been developing the Protocol on Liability and Compensation;
- Publications, which offers a wide range of resources on the treaty and its implementation;
- Regional Centres, including contact points and other information;
- links to environmental agencies in many countries.

The Fifth Conference of the Parties to the Basel Convention (see **UNEP Focus**), which has its own page and links, includes pre-session documents in all UN languages.

For more information, contact: Michael Williams, Information Unit for Conventions. Tel: +41 22 917 8242/44. Fax: +41 22 797 3464. E-mail: michael.williams@unep.ch. Internet: www.basel.int.

Automobile et développement durable : bilan environnement – matières premières 1975-2050.

Automobile et gaz naturel : scénarios prospectifs et impact sur l'environnement

Les transports individuels et plus précisément la voiture font l'objet du numéro 9 des cahiers du CLIP. La première partie de ce numéro est une analyse rétrospective des quantités globales d'énergie et de matières premières mobilisées pour un véhicule et de l'évolution des émissions de polluants de 1975 à 1995 ; elle est suivie d'une analyse prospective de la filière automobile en France pour 1995 à 2050. La deuxième partie propose des scénarios prospectifs sur l'usage du gaz naturel dans la carburation automobile et analyse leur impact sur l'environnement.

Les deux études tentent d'apporter des éléments de réponse aux questions de la maîtrise de la consommation et de la lutte contre la pollution des transports dont dépendra, pour les cinquante années à venir, l'évolution de nos économies vers le développement durable.

(décembre 1998, numéro 9). Les cahiers du Club d'Ingénierie Prospective Energie et Environnement, CLIP, 1 rue du Cerf, 92195, Meudon, France, 64 p.

Guide des Phytotechnologies

Le *Guide des Phytotechnologies* fait le lien entre les chercheurs, occupés à éclaircir les mécanismes, et les gens de terrain, préoccupés par la recherche de solutions directement applicables à un problème posé et économiquement rentables. C'est un outil d'aide à la décision dans le domaine de la décontamination et

de l'aménagement des sols pollués par les métaux lourds.

Il se présente sous forme de fiches. Les fiches définitions expliquent les notions fondamentales nécessaires à la compréhension des informations fournies dans le reste du guide. Les fiches techniques retracent le principe de la technique, le type de pollution auquel la technique s'applique, ses avantages et ses inconvénients, les caractéristiques et les performances des espèces utilisables. Les fiches espèces décrivent les espèces potentiellement candidates pour les techniques décrites. Les espèces présentées ont été choisies parce qu'elles sont capables de se développer et d'être utilisées sur le territoire français. Les contaminants traités sont aussi ceux qu'on rencontre le plus fréquemment sur le territoire français. Le guide comporte également des fiches études de cas et un glossaire. Toutes les fiches sont assorties de références bibliographiques.

(septembre 1999). Environnement et Développement Alternatif (EDA), 23 rue Gosselet, 59000 Lille, France.

Pauvrete, décentralisation et changement social – Eléments pour la reconstruction d'une société politique

La décentralisation peut être un outil privilégié pour neutraliser les mécanismes qui créent et généralisent la pauvreté : telle est l'hypothèse qui, aujourd'hui, guide la démarche d'Enda Graf Sahel.

Décentraliser signifie prendre conscience des centralités qui régissent nos vies et nous en libérer pour devenir acteur, expérimentateur et innovateur. Le texte présente quelques hypothèses explorées actuellement dans divers champs d'action d'Enda Graf Sahel pour développer une démarche et des pratiques décentralisatrices. Il ouvre des pistes pour ceux et celles qui cherchent à changer les règles du jeu societal, en quête de démocraties véritablement imaginatives et contributrices.

(septembre 1999). Editions Enda Graf Sahel, B.P. 13 069 Grand Yoff, Dakar, Sénegal. Tél : + 221 827 2025, Fax : +221 827 3215. Broché, 174 p. ISBN 92-9130-020

Planète eau : repères pour demain

Cet ouvrage, qui passe en revue l'essentiel des problématiques de l'eau en France et dans le monde, tente de dégager les pistes d'une gestion modernisée et équilibrée de l'eau, à partir des succès comme des échecs de la période récente.

Il est d'abord destiné aux acteurs impliqués dans ce domaine, qu'ils appartiennent au secteur public, Etat, collectivités locales, universités, ou à la société civile, entreprises, milieux associatifs… Le spécialiste trouvera le rappel de quelques données fondamentales et des sources de référence. Mais à l'heure où l'eau est considérée comme un des enjeux essentiels du 21ème siècle, cet ouvrage intéressera également tous ceux, même non-spécialistes, qui souhaitent disposer d'une vision renouvelée de l'actualité de ces problèmes.

Jean-Luc Redaud (1999). Editions Johanet, 30 rue René Boulanger, 75010 Paris, France. Tél : +33 1 44 84 78 78, Fax : +33 1 42 40 26 46, Courriel : info@editions-johanet.com, Internet : www.editions-johanet.com. Broché, 328 p., ISBN 2-900086-50.

THE UNEP DIVISION OF TECHNOLOGY, INDUSTRY AND ECONOMICS

Current uses and development of natural resources, technologies and production processes, as well as urbanization patterns, have negative effects on human health and the environment. This is illustrated by unsustainable use of water, land and energy, air and water pollution, persistent and toxic bio-accumulative chemicals in the food chain, and other industry-related problems. To have a healthy environment, we need to change how we produce and consume goods and services. This change involves revising and developing economic policies and trade practices so as to integrate environmental issues in the planning and assessment processes.

UNEP's Division of Technology, Industry and Economics (UNEP DTIE) was created in 1998 to help decision-makers in governments, local authorities and industry develop and adopt policies and practices that:

- are cleaner and safer;
- use natural resources efficiently;
- ensure adequate management of chemicals;
- incorporate environmental costs;
- reduce pollution and risks for humans and the environment.

UNEP DTIE, whose main office is in Paris, is composed of:

◆ **The International Environmental Technology Centre (Osaka)**, which promotes the adoption and use of environmentally sound technologies, with a focus on the environmental management of cities and freshwater basins, in developing countries and countries in transition.

◆ **The Production and Consumption Unit (Paris)**, which fosters the development of cleaner and safer production and consumption patterns that lead to increased efficiency in the use of natural resources and reductions in pollution.

◆ **The Chemicals Unit (Geneva)**, which promotes sustainable development by catalyzing global actions and building national capacities for the sound management of chemicals and the improvement of chemical safety world-wide, with a priority on Persistent Organic Pollutants (POPs) and Prior Informed Consent (PIC, jointly with FAO).

◆ **The Energy and OzonAction Unit (Paris)**, which supports the phase-out of ozone depleting substances in developing countries and countries with economies in transition, and promotes good management practices and use of energy, with a focus on atmospheric impacts. The UNEP/RISØ Collaborating Centre on Energy and Environment supports the work of this Unit.

◆ **The Economics and Trade Unit (Geneva)**, which promotes the use and application of assessment and incentive tools for environmental policy, and helps improve the understanding of linkages between trade and environment and the role of financial institutions in promoting sustainable development.

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http://www.uneptie.org/home.html

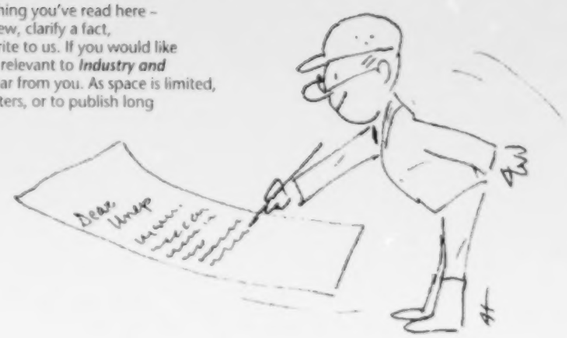
FEEDBACK

If you would like to respond to something you've read here – to agree or disagree with a point of view, clarify a fact, or provide additional information – write to us. If you would like to air your views on any other subject relevant to ***Industry and Environment***, we would also like to hear from you. As space is limited, we cannot guarantee to publish all letters, or to publish long ones in full.

Send your Feedback letters to:

Feedback
Industry and Environment review
UNEP DTIE
Tour Mirabeau
39-43, quai André-Citroën
75739 Paris Cedex 15, France

Fax: +33 (1) 44 37 14 74
E-mail: unep.tie@unep.fr



Industry and Environment

a publication of the United Nations Environment Programme
Division of Technology, Industry and Economics

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